



**AUSTRALIAN CAPITAL TERRITORY**  
**LAND (PLANNING AND ENVIRONMENT) ACT 1991**  
**TIDBINBILLA NATURE RESERVE PLAN OF MANAGEMENT**  
**INSTRUMENT OF APPROVAL**  
**INSTRUMENT NO. 59 OF 1999**

Under section 204 paragraph (a) of the *Land (Planning and Environment) Act 1991*, I approve the Tidbinbilla Nature Reserve Plan of Management attached to this instrument.

As required by section 207 the Plan of Management is tabled as a disallowable instrument for the purposes of section 10 of the *Subordinate Laws Act 1989*.

The Plan of Management will take effect subject to section 6 of the *Subordinate Laws Act 1989* on the expiration of five (5) sitting days after it is laid before the Legislative Assembly.

Dated this thirtieth day of March 1999

***Brendan Smyth***  
Minister for Urban Services

MANAGEMENT PLAN 1999

# TIDBINBILLA NATURE RESERVE



Department of Urban Services  
Conservation Series No.

Australian Capital Territory Government





# ENVIRONMENT ACT

## TIDBINBILLA NATURE RESERVE

### MANAGEMENT PLAN



MARCH 1999



## NOTES

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This management plan has been prepared in accordance with section 197 of the *Land (Planning and Environment) Act 1991*.

ISBN

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## MINISTERIAL FOREWORD

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In the spectrum of opportunities available in the ACT's conservation reserve system, Tidbinbilla Nature Reserve (TNR) provides a unique focus for education and nature based tourism. Tidbinbilla's enclosure areas and nature trails are valuable in educating visitors about conservation issues through experiences such as the 'Encounter Wildlife' theme. The Reserve prepares those that wish to progress into the more natural areas of the adjacent Namadgi National Park.

TNR can best be described as being part of a valley that takes in the surrounding peaks of the Tidbinbilla and Gibraltar Ranges and offers magnificent views from the southern part of Canberra. It is located in the rural area of the ACT and encourages people to venture out of the urban area to enjoy the country. It contributes to the special character of Canberra and provides an accessible escape from the rigours of city living.

We are fortunate to inherit such a significant natural asset that I feel sure will continue to be enjoyed by generations of Canberrans and visitors. I consider it paramount for the ACT Government to exercise stewardship over TNR which is both environmentally sustainable and in tune with community expectations. The natural, cultural, recreational, aesthetic and educational values of TNR which so many of us have discovered and prize so highly, can only be fostered within the context of a clear management framework. To this end, a co-ordinated, focused management planning process was used to identify issues, establish a vision and give form to policies.

This plan of management is the result of that planning process which involved broad community and government agency consultation. The Plan acknowledges TNR's various environmental qualities and is responsive to the many demands placed on the reserve by the community. It provides a sound basis for the future management and development of the Reserve that will ensure it retains its appeal to Canberrans and visitors alike without comprising its special environmental qualities.

Brendan Smyth MLA  
Minister for Urban Services

February 1999

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## PREFACE

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This management plan is consistent with the requirements of the *Land (Planning and Environment) Act 1991*. The Act provides the legislative basis for the reservation of public land in the ACT through the Territory Plan and requires that management plans be prepared for areas identified as public land in the Territory Plan as soon as practicable after their reservation.

This plan reflects information and issues gathered from past processes and input from community and commercial groups with special interest in TNR and government agencies. In particular, it has benefited from expert advice and comment from members of the ACT Environment Advisory Committee, the ACT Heritage Council, officers of Environment ACT, the ACT Planning Authority (now Planning and Land Management), the National Capital Planning Authority (now the National Capital Authority), members of local conservation groups and members of the tourism industry. Maps were prepared by Environment ACT.

This plan applies to those areas shown in Figures 1 and 2 as Tidbinbilla Nature Reserve. The Reserve has two distinct zones, the National Park Zone, which is managed under the same principles as the adjoining Namadgi National Park and the Special Purpose Reserve that contains the developed areas of the Reserve. Block 9, Block 16 (Kangaroo Flats) and the contiguous area shown as area A in Figure 2 are not covered by this management plan as it is intended that they will be included in a revised Namadgi National Park Management Plan to recognise that they are managed as a part of that National Park. The Reserve lies within the headwaters of the Tidbinbilla River catchment and management of the two zones is conducted in line with integrated catchment management principles.

The draft Management Plan was released at the same time as a draft Public Works Implementation Plan. These documents complement each other and support *Promoting the Natural Capital - A Nature Based Tourism Strategy for the ACT* released in February 1997.

This Management Plan incorporates and assumes the following **management principles**:

- All management will comply with relevant legislation, the National Capital Plan and the Territory Plan.
- No actions will be undertaken which are inconsistent with Government policies. This includes policy changes or adoption of new policies.
- All activities by government agencies, private businesses, community groups and individuals will be consistent with the objectives of the management plan and the Nature Based Tourism Strategy.
- Policy changes or new works will be implemented only after consideration of the short and long term costs of undertaking the action in relation to the short and long term benefits to be obtained.
- Management will aim to assist and provide the best possible integration of uses for TNR including the provision of access to TNR sites for community groups for appropriate activities.
- Management will provide for and control commercial participation in the provision of appropriate visitor services.
- Management will ensure that there is a regular accumulation of data and a continual update of the GIS database of sites of natural and cultural heritage significance.
- Within TNR, the management will adopt practices that minimise soil, vegetation and fauna disturbance.

- Management activities (e.g. use of chemical sprays and poisons) will be subject to visitor safety and public health particularly with regard to contamination of water, possible residual or non-target effects and consideration of feasible alternatives.
- Weed control will be guided by the ACT Weeds Strategy.
- Hazard reduction and fire suppression for surrounding land uses and for the neighbouring grazing lands will be managed to ensure that the valuable natural and cultural features of TNR are not adversely affected

### **About the ACT Parks and Conservation Service**

The ACT Parks and Conservation is part of Environment ACT, Department of Urban Services. The Service manages open space, natural and cultural resources and recreation facilities throughout the ACT, and in the Googong Foreshores in NSW. Its responsibilities include:

- Management of public land, including national parks, nature reserves and special purpose reserves;
- Assistance with investigation and research into environmental issues;
- Implementation of conservation legislation including regulation, protection and management of native flora and fauna;
- Environmental interpretation and advice on pest plant and animal control;
- Co-ordination of volunteer services; and
- Support of nature based tourism.



## ACRONYMS

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ACTPCS	ACT Parks and Conservation Service
ANU	Australian National University
ARAZPA	Australasian Regional Association of Zoological Parks and Aquaria
BFC	ACT Bushfire Council
BFS	ACT Bushfire Service
CONCOM	Australian Council of Nature Conservation Ministers
ESB	Emergency Services Bureau
GIS	Geographic Information System
NCA 1980	<i>Nature Conservation Act 1980</i>
NCA	National Capital Authority (formerly the National Capital Planning Authority)
NCP	National Capital Plan
NNP	Namadgi National Park
OH&S	Occupational Health and Safety
PALM	Planning and Land Management, Department of Urban Services (formerly the ACT Planning Authority)
SPR	Special Purpose Reserve
The Service	ACT Parks and Conservation Service, Environment ACT
TNR	Tidbinbilla Nature Reserve
TP	Territory Plan
VIC	Visitor Information Centre

## VISION

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Tidbinbilla Nature Reserve will be a high quality reserve focussing on maintaining its nature conservation values where people can enjoy a range of stimulating and educational experiences with nature, ranging from close encounters with native wildlife in natural settings to more strenuous adventure in the surrounding national park.

Through the development of Tidbinbilla as the focal point for an intense nature based experience by local, interstate and international visitors, the Government expects to:

- Give as many people as possible the opportunity to experience our unique and diverse wildlife through the 'Encounter Wildlife' theme;
- Provide a high quality recreational and educational experience;
- Assist in the promotion of Canberra as a tourist destination which includes an excellent nature based tourism venue; and
- Provide a return on the investment made at Tidbinbilla to assist with its continuing maintenance and enhancement.

This vision for Tidbinbilla is an integral part of nature based tourism for the ACT and will be achieved by:

- Conserving and managing the biodiversity and natural and cultural heritage values of the Reserve on an ecologically sustainable basis;
  - Continuing to support and encourage scientific research, particularly those projects addressing management issues;
  - Maintaining the emphasis on local and regional fauna;
  - Providing high quality wildlife displays in a range of natural habitats;
  - Maintaining a range of low impact recreational opportunities for the more adventurous visitors;
  - Involvement of community groups;
  - Bringing a high level of expertise to interpretation and education activities;
  - Providing high quality services to visitors; and
  - Charging for access to the Reserve to provide additional resources for improvements to TNR and the nature conservation estate in the ACT.
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## SUMMARY

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Tidbinbilla Nature Reserve (TNR) is located in the Tidbinbilla Valley in a rural setting a short distance from Canberra. TNR takes in the valley floor and includes the surrounding range and peaks of the Tidbinbilla range and Gibraltar Range.

TNR is divided into two separate management zones; the special purpose reserve which takes in the valley floor; and the national park zone made up of the surrounding hills and peaks. The special purpose reserve has been developed to provide wildlife enclosures, a Visitor Information Centre and barbecue area. The national park zone has minimal development with recreational walking tracks and several fire trails. Block 9, Block 16 and area A contiguous with Block 16 (Fig 2) are managed as part of Namadgi National Park in line with the Namadgi National Park Plan of Management, June 1986, and are not included in this plan of management. It is intended that they will be included in a revised management plan for NNP.

There are unresolved native title claims over large areas of the national park zone. It is unknown when these claims will be resolved. This management plan will be reviewed, if necessary, when there is a resolution to determine if there will be any impact on land management.

TNR provides important ecological, educational, scientific and recreational functions. It contains a range of different vegetation types from snow gum woodland to open grassland and provides a diverse range of habitat for wildlife. TNR provides an excellent opportunity for nature based tourism with a series of wildlife enclosures for intimate viewing juxtaposed with remote areas and associated bush experiences based on the higher ranges and peaks.

The management philosophy for TNR seeks to retain its generally undeveloped character and to encourage recreation activities compatible with this. The primary purpose of the Reserve is to maintain its nature conservation values. While visitor use is important, the protection of the primary natural and cultural values of TNR is the first priority of management. It is essential for the protection of TNR that natural and cultural values are presented to visitors appropriately so that these values can be sustained for future generations.

This plan of management addresses management objectives, policies, issues, and actions specific to TNR. It is consistent with the National Capital Plan and the Territory Plan and includes policy statements that will guide the decision making process. Management of TNR recognises the wider system of ACT land administration, planning and management.

The purposes of this Management Plan are:

- To set the planning context; identify and describe TNR; identify issues, expectations and constraints; propose direction for management (objectives policies, actions, and priorities); provide a basis for evaluating management success; and
- To provide a basis for the community to understand and comment on management intent.

## 1. INTRODUCTION

Tidbinbilla Nature Reserve (TNR) is in the north west quadrant of the ACT and covers an area of approximately 5450 hectares (Figure 1). It consists of a large valley floor, the Tidbinbilla mountain range and the Gibraltar range. The sides of the Tidbinbilla Valley are steep and heavily forested with relatively undisturbed wildlife communities. The lower slopes and partly cleared valley floor reflect the history of Aboriginal and European use of the area.

TNR is well known for its wildlife displays and rich Aboriginal and European heritage. It attracts many overseas visitors as well as local residents every year. The reserve offers a wide range of opportunities for visitors, including barbecue facilities, family walks and wildlife enclosures.

The reserve borders Namadgi National Park which links it to Kosciuszko National Park in NSW, forming part of the chain of Australian Alpine Parks that extends into Victoria. It also has boundaries with ACT Forests, rural lessees and the Department of Education and Training complex at Birrigai.

### 1.1 HISTORY

A comprehensive summary of the planning history of TNR is provided in Appendix 1.

In 1936 about 328 hectares of land was set aside as public reserve in the Tidbinbilla area (Boot and Bulbeck 1991). The Government acquired land to establish a national park and fauna reserve in November 1962, increasing the land area to 3,629 hectares and this was later increased to 5,450 hectares.

A master plan for Tidbinbilla, the *Tidbinbilla Nature Reserve: A General Development Plan* (Margules and Associates 1968) outlined the purposes of the reserve as:

- The preservation of natural flora and fauna;
- Public education; public recreation; and
- Serious study.

This plan also established six management zones that are essentially preserved in the current plan.

In 1971 the reserve was gazetted as a public park under the *Public Parks Act 1928* and in 1991 TNR was gazetted as a nature reserve under the *Nature Conservation Act 1980*. Following the enactment of the *Land (Planning and Environment) Act* (the Land Act) and the release of the Territory in 1993, TNR was defined as public land with overlay provisions of national park and special purpose reserve. Both the national park and special purpose reserve are included in the Mountains and Bushlands Land Use Policies of the Territory Plan.

### 1.2 SIGNIFICANCE AND VALUES OF TIDBINBILLA NATURE RESERVE

On 1 November 1983 TNR was placed on the Register of the National Estate in recognition of its natural and cultural significance. It is also listed on the ACT Interim Heritage Places Register which affords the reserve protection from activities likely to interfere with its heritage values.

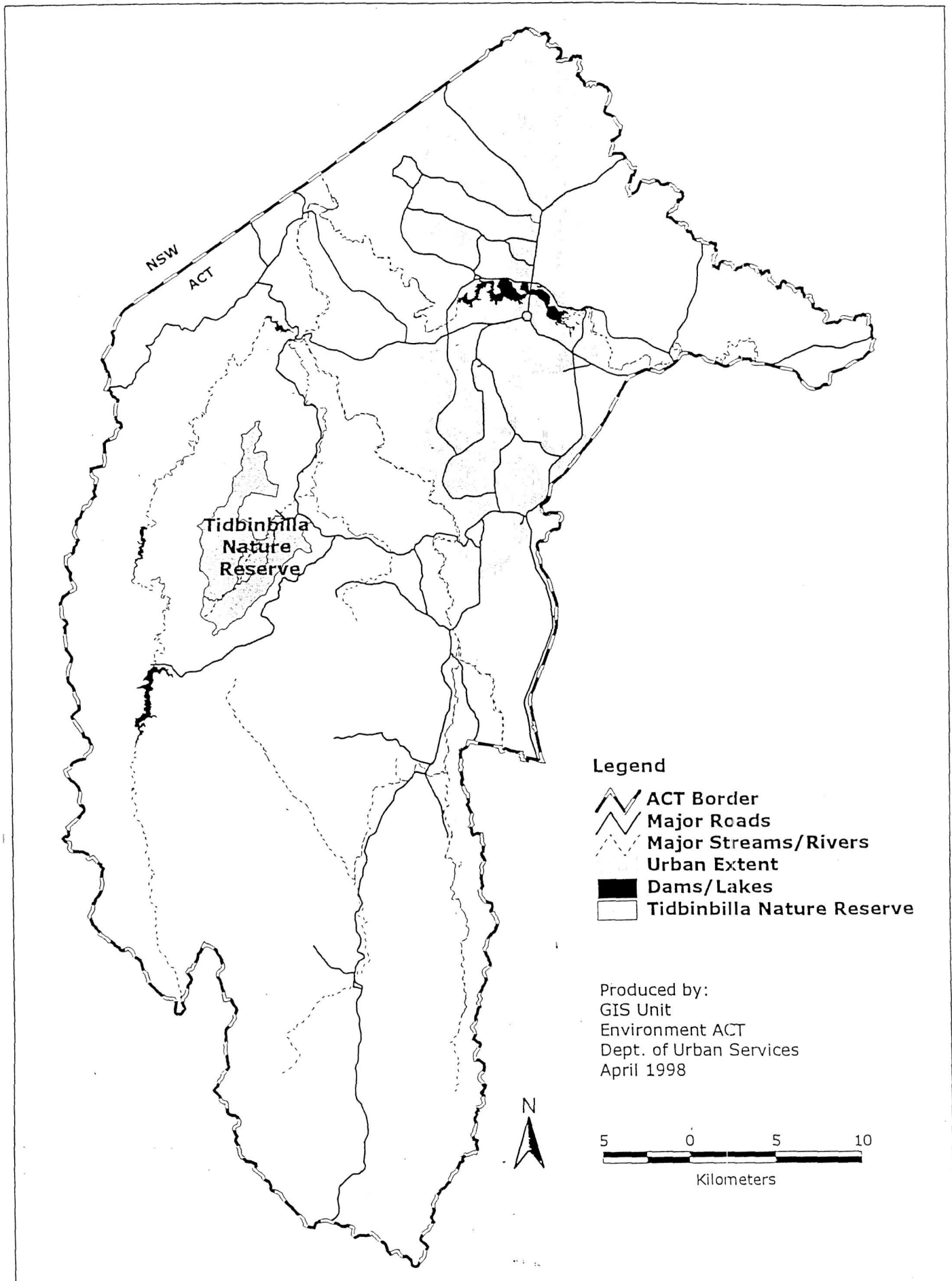
## 1. INTRODUCTION

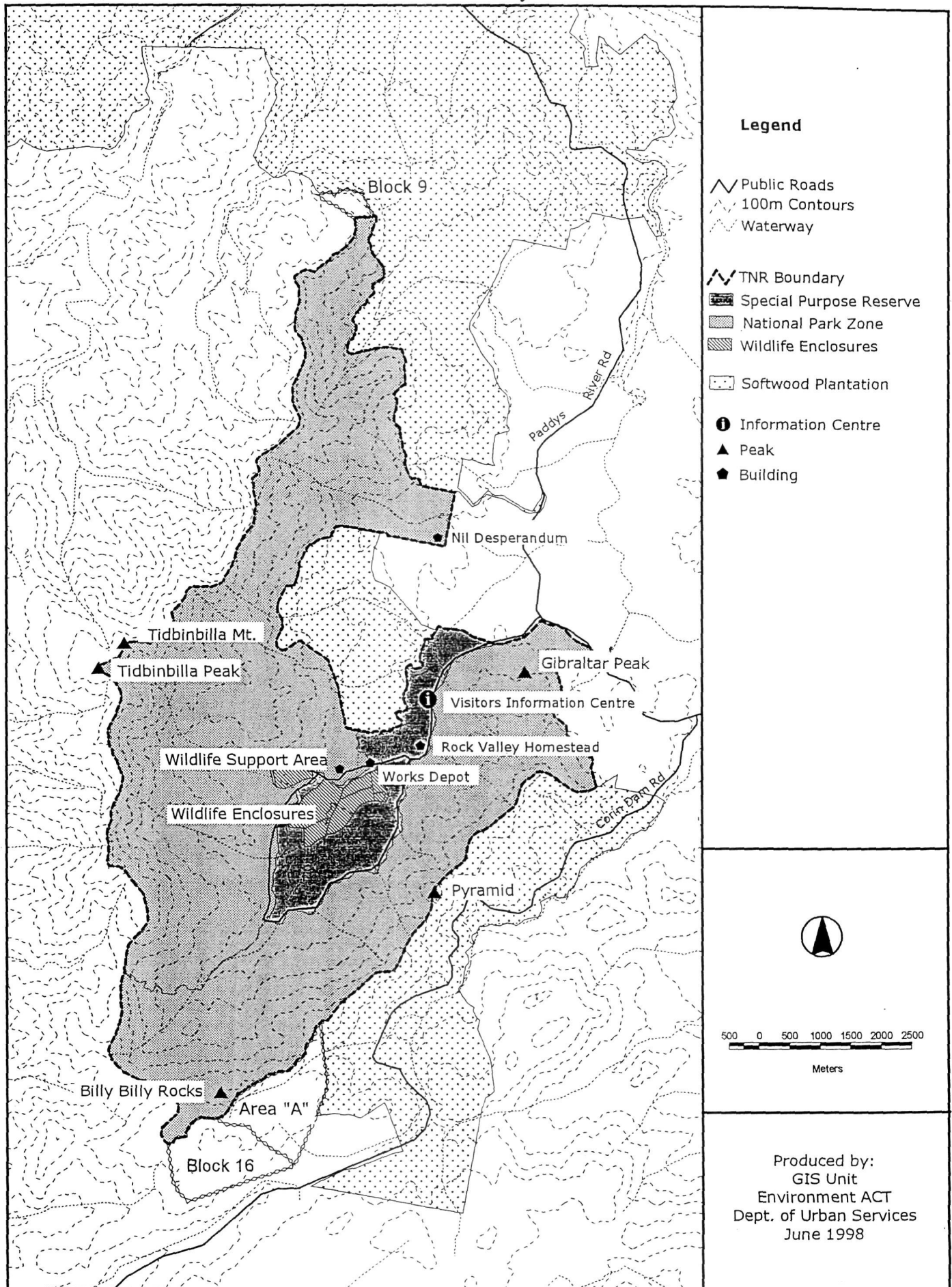
The closeness of TNR to Canberra's urban area enables the area to be used by people seeking a variety of nature based and outdoor experiences. TNR provides a gradation of experiences ranging from barbecues and picnics to truly 'wild' experiences that require people to have a range of outdoor survival skills.

The values of TNR are varied and include:

- Excellent examples of fourteen vegetation communities including tall wet forests;
- A large number of plant species uncommon or rare in the ACT, particularly ferns and orchids;
- A range of landscape types. The enclosed nature of the Tidbinbilla Valley greatly enhances settings for recreational and educational opportunities;
- Numerous sites of Aboriginal and European culture with a high significance;
- An outstanding resource for nature based recreation, with a concentration of natural and cultural elements, wildlife displays, closeness to Canberra and good sealed road access. It offers a wide range of activities including bushwalking, nature enjoyment, picnicking and organised walks programs;
- An outstanding tourist attraction with excellent potential for increased nature based tourism;
- A complement to the range of educational opportunities available in the Environment ACT reserve system. It offers extensive educational opportunities to visitors and the local community; and
- An excellent facility for research on wild flora and fauna. It contains terrestrial and aquatic environments in a semi-natural setting with a servicing infrastructure. Husbandry and research activities carried out at TNR complement those undertaken at other facilities.

**Figure 1. Tidbinbilla Nature Reserve and the ACT**



**Figure 2. Tidbinbilla Nature Reserve boundary**

### 1.3 PURPOSE OF THE PLAN

The purpose of this plan is to meet the requirements of the Land Act for the preparation of plans of management for areas identified as public land in the Territory. It also meets the requirements of the National Capital Plan. In addition, to the management objectives specified in Schedule 1 of the Land Act, the Conservator of Flora and Fauna may set additional objectives and these are set out in this plan of management.

This document describes the area of TNR, and provides management objectives, guidelines, policies and criteria to assist with management decisions for its future management and development. It is concerned with identifying methods to avoid and minimise conflicting activities and practices and providing the management framework for the management of TNR.

Detailed management prescriptions and operations may be referred to but are not included in this plan. They will be covered in other specific policy and procedure documents and action plans, including:

- The Species Management Plans for Captive Wildlife;
- The Bushfire Fuel Management Plan;
- The Tidbinbilla Implementation Plan (to be produced within 12 months of the finalisation of this plan);
- The Tidbinbilla Public Works Implementation Plan;
- The ACT Weeds Strategy (finalised); and
- Other ACT wide policies.

With the identification of TNR as a site for nature based tourism (Capital Public Affairs Consultants *et al.*, ACTPCS and Canberra Tourism 1996, Canberra Tourism Commission 1996, Nature Based Tourism Strategy 1997), and the reserve's potential for future functional expansion, it is important that the future direction for TNR be guided by this management plan.

**To this end, guidelines, policy and criteria have been stated in the plan to assist in decision-making processes. These can be found in the shaded areas of this document.**

### 1.4 SCOPE OF THE PLAN

This management plan applies to TNR as defined in the Territory Plan. The Territory Plan identifies the area within the boundaries of TNR as public land (national park) and public land (special purpose reserve). The boundaries of the special purpose reserve are shown in Figures 2 and 4. The land status of TNR creates a number of management difficulties that are addressed in the overall objectives of TNR (see Section 2.2).

The plan covers management issues, including policies and objectives, relevant to the management of the reserve as a whole. It also details specific management policies and objectives that apply to the special purpose reserve.

Under the Land Act the objectives for the special purpose reserve are recreation and education. This zone is of lower conservation importance than other areas of TNR and has potential for further development of visitor facilities and wildlife enclosures. Development pressures and opportunities



## 1. INTRODUCTION

for this zone will be managed through this plan and the TNR Public Works Implementation Plan was released in draft form simultaneously with the draft Management Plan.

The ACT Government recognises the primary importance of maintaining the nature conservation values of the Reserve. This Management Plan establishes the importance of management of TNR for conservation. It recognises TNR's role as a national park, wildlife conservation and education facility and as a potential high quality nature based tourism destination. It also recognises the role of the captive native animal displays in contributing to conservation, education, research, recreation and nature based tourism.

## 2. MANAGEMENT AND PLANNING CONTEXT

### 2.1 POLICY AND LEGISLATION

Management of TNR is subject to several layers of planning, management, legislation and policy. This includes the Commonwealth *Australian Capital Territory (Planning and Land Management) Act*, the National Capital Plan (NCP), the ACT *Land (Planning and Environment) Act* (the Land Act), and the Territory Plan (TP). Figure 3 provides a graphical summary of land management processes in the ACT, specifically as they relate to nature conservation areas. A chart summarising the main features of the various strategies and policies that determine Plan development and how the Plan will link to other more detailed documents is illustrated at Figure 4.

The Land Act requires the Conservator to prepare a management plan for an area of public land, establishes management objectives for national parks and special purpose reserves and empowers the Conservator to specify additional objectives. TNR is managed in accordance with the legislation, the management plan, policies, procedures and guidelines developed by Environment ACT.

Management principles and a list of permitted uses are outlined in the NCP. The policies in the NCP note the need for plans of management to assist in determining financial responsibilities and as a means of enabling the National Capital Authority (NCA) to authorise works in designated areas. The development of plans is the responsibility of the ACT Government and they are to be prepared in close consultation with the NCA.

#### 2.1.1 General Legislation

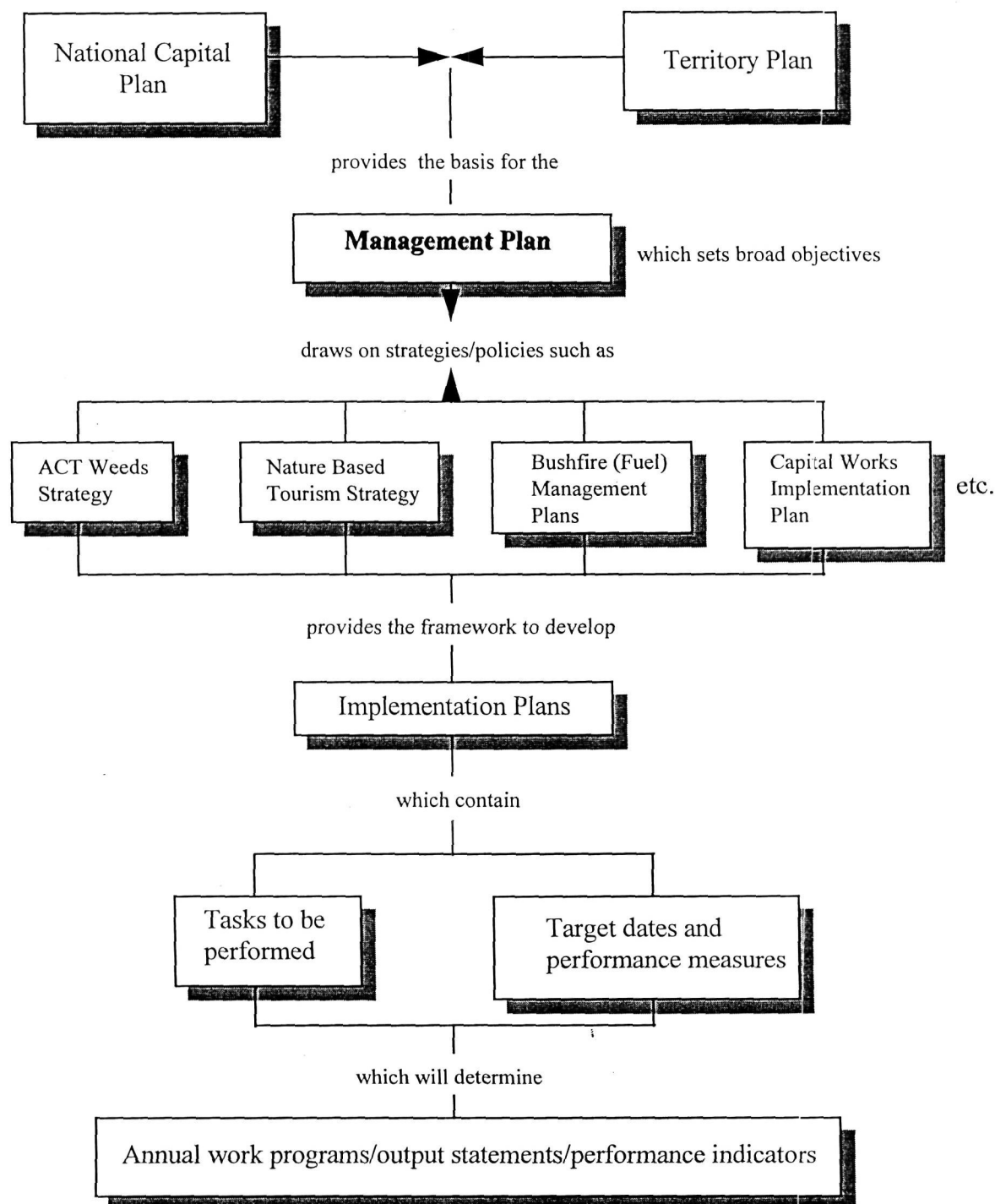
The management of TNR is subject to a wide range of both Commonwealth and ACT legislation which provide the base for management of TNR and the regulation of activities and visitor behaviour in the reserve (see Appendix 2 for more detail).

The *Nature Conservation Act 1980* (NCA 1980) is the primary legislation used to manage public land by Environment ACT. It provides for the protection of native plants, animals and timber and gives the Conservator of Flora and Fauna the authority to allow or restrict activities within reserved areas and wilderness zones.

**Figure 3. Summary of land management mechanisms in the ACT**

<b>Legislation</b>	<u>Commonwealth Government</u>	<u>ACT Government</u>
	Part IV of the <i>ACT (Planning and Land Management) Act 1988</i> (Commonwealth) requires the ACT Legislative Assembly to establish a Territory planning authority.	To address the Commonwealth requirement to establish a Territory planning authority, and other requirements, the ACT Government enacted the <i>Land (Planning and Environment) Act 1991</i> (the Land Act).
<b>Authority</b>	National Capital Authority (NCA)	Planning and Land Management (PALM)
<b>Planning Framework</b>	National Capital Plan To ensure that Canberra and the Territory are planned and developed in accordance with their national significance.	Territory Plan (TP) To ensure in a manner not inconsistent with the NCP, the planning and development of the Territory to provide the people of the Territory with an attractive, safe and efficient environment.
<b>Land Use Policies</b>	The NCP defines the concept of the National Capital Open Space System and defines the different types of open space including: Hills, Ridges and Buffer Spaces, River Corridors and Mountains and Bushlands.	The TP defines Land Use Policies which set out specific land use related objectives and policies for giving effect to the TP's planning principles and policies.
	Defines the concept of Designated Areas to include land that has the special characteristics of the National Capital.	There are currently 16 Land Use Policies defined including: Hills, Ridges and Buffer Areas, River Corridors and Mountains and Bushlands.
	The NCA retains responsibility for planning, design and within areas identified as Designated Areas.	Land Use Policies may incorporate a number of overlay provisions. Such overlays provide for area specific policies, within the broader context of the Land Use Policy.
		Public Land is an overlay provision. The type of Public Land reserved will depend on the management objectives sought for the area.
		Eight Public Land Categories are defined in Schedule 1 of the Land Act and include: wilderness areas, national parks, nature reserves, special purpose reserves and urban open space.

**Figure 4. Hierarchy of documents**



## 2.2 OVERALL MANAGEMENT OBJECTIVES

The ACT Government places a high priority on the protection and conservation of the natural and cultural values of TNR. The Government will develop appropriate educational opportunities and materials, and recreational and tourism facilities to complement this primary objective.

Broad management objectives for public land are identified in Schedule 1 of the Land Act. The Conservator may also specify management objectives for an area of public land and for TNR. These are identified in each section of this plan. The overall objectives for managing TNR are:

- a) To give priority to **protecting natural and cultural resources**, while providing opportunities for appropriate educational scientific, recreational and tourism use by the;
- b) To **conserve native plants, ecological communities and ecosystems** of TNR and to enhance our knowledge of their conservation needs and improve their conservation status;
- c) To **conserve native animals** with an emphasis on those endemic to the local bioregion **and contribute to the conservation of Australian wildlife communities** through information, interpretation, education and research;
- d) To **ensure integrated management** of TNR recognising the concept of two entities, the special purpose reserve and the national park;
- e) To **facilitate community participation** in Tidbinbilla's activities, and equitable access to services we provide;
- f) To **foster an environmentally sensitive community lifestyle** through increased knowledge, understanding and support for nature conservation principles and management practices;
- g) To **support Government participation** in ACT, regional and national nature conservation strategies; and
- h) To **provide the resources, facilities and programs** to meet management aims and visitor expectations, including appropriate recreation and tourism opportunities that are ecologically sustainable.

### 3. MANAGEMENT ZONES

#### SPECIFIC MANAGEMENT OBJECTIVES

- Clearly define management zones and activity areas.
- Manage the special purpose reserve in sympathy with the national park, including for conservation, education and recreation.

#### 3.1 BACKGROUND

Zoning is used by land management agencies to:

- protect resource values;
- reduce the potential for conflict between uses;
- ensure that uses are compatible with conservation and other objectives;
- identify areas requiring protection;
- identify the intensity and types of uses that are appropriate; and
- to assign priorities for management and uses within areas.

Zoning provides a framework within which to consider future land use proposals, including developments, and assists the community to understand the types of appropriate uses and management actions allocated to certain areas.

TNR provides two geographically distinct management zones with different management objectives. They are the valley floor (special purpose reserve) and the mountain range and foothills that make up the national park zone. These zones have been determined under the Land Act and the Territory Plan. The Territory Plan land use policies for mountains and bushlands, which apply to the national park zone, are reproduced at Appendix 5.

#### 3.2 THE SPECIAL PURPOSE RESERVE

The special purpose reserve is managed to provide for the following opportunities:

- Wildlife observation based on captive populations;
- Education (cultural/historical and landscape values);
- Scientific study;
- Conservation of indigenous flora and fauna and cultural heritage;
- Conservation of cultural resources;
- Contribution of captive wildlife to conservation;
- Recreation and tourism; and
- Commercial activity (as constrained by Section 9.2).

### 3. MANAGEMENT ZONES

The special purpose reserve is the area of TNR that carries the majority of visitor use. Its boundary is drawn on functional and physical lines to include wildlife enclosures and recreational facilities (see Figures 2 and 5). This zone is further divided into areas which provide a basis for consideration of future developments (Section 7.6) and their location.

The special purpose reserve includes the picnic and barbecue facilities, the Visitor Information Centre (VIC), cultural sites of significance, natural features, wildlife enclosures, an amphitheatre, a scenic drive and lookout, starting points for nature trails and management facilities. These all help to contribute to the objectives of conservation, education, research and recreation within TNR.

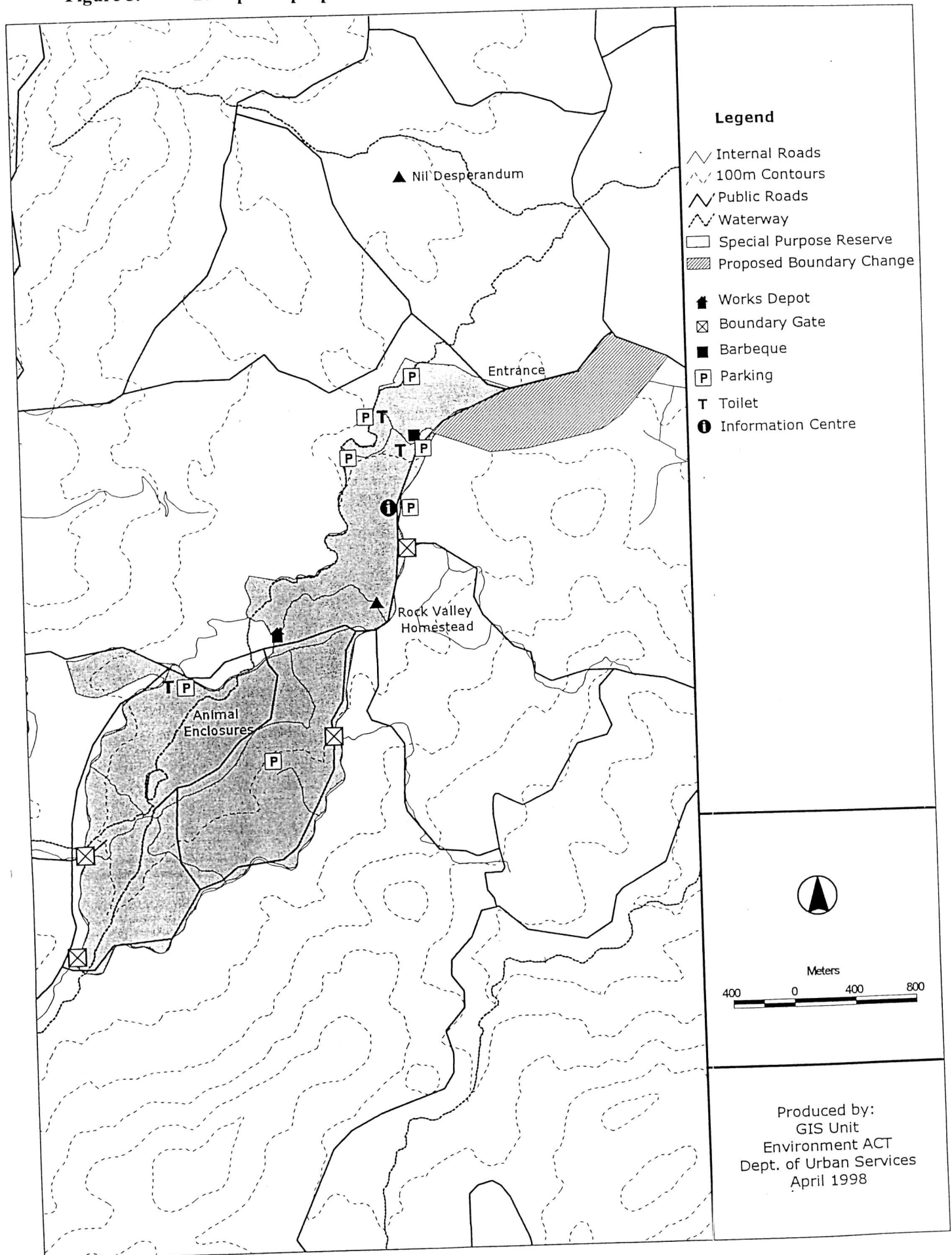
Under the Land Act, the management objective for public land reserved as special purpose reserve is to provide for public use of the area for education and recreation. In this plan, the management objectives for the special purpose reserve complement the principles for conserving and managing the surrounding national park with many aspects of management being integrated. The special purpose reserve is managed so as to minimise negative impacts on the national park. In the special purpose reserve, where an educational opportunity which relies on natural values may be compromised by a recreational activity, the educational requirements will be given the highest priority.

The special purpose reserve of TNR is seen as a centre for nature based tourism and possible future developments such as educational facilities and regional visitors centre. In order to accommodate all likely developments within the special purpose reserve a minor amendment to the Territory Plan will be processed in order to extend the special purpose reserve boundary to include a 400 metre wide strip on the south eastern side of the entry road between the existing visitor centre and the intersection of Tidbinbilla Road with Paddys River Road.

The Public Works Implementation Plan for the special purpose reserve will provide a comprehensive analysis of the physical site and identify development opportunities. The plan provides development and landscape plans and a staging program for activities and constructions planned for implementation over the next three years. The Public Works Implementation Plan also provides sketch plans for the highest priority facilities. The developments being considered for TNR will enhance its ability to play a high profile role in the enhancement of nature based tourism in the ACT.

The special purpose reserve is appropriate for commercial activity and granting of concessions will be considered in the context of promoting TNR as an educational and recreational facility with a conservation ethos. All development proposals within TNR are to comply with the Public Notification requirements specified in the Land Act and the relevant schedules in the Territory Plan - Mountains and Bushlands Land Use Policies. While consistent with the management plan, proposals may be subject to further public consultation by way of Preliminary Assessment, Public Works Implementation Plan or Development and Building Applications, depending upon the nature of the proposals and the likely impact of the development.

**Figure 5. The special purpose reserve and its facilities**





### 3.3 THE NATIONAL PARK

**The national park is managed to provide for the following opportunities:**

- **Conservation of the natural environment and maintenance of biodiversity;**
- **Conservation of cultural resources;**
- **Education (cultural/historical and landscape values);**
- **Scientific research; and**
- **Low impact recreation.**

The national park zone of TNR is managed primarily for conservation of biodiversity and the natural and cultural environment and has fewer visitors than the special purpose reserve. Development is minimal and must comply with the performance criteria outlined in Section 7.6.3.

Although the Reserve has been delineated as possessing wilderness values (as defined by Environment Australia) the quality of this wilderness area is low to medium compared to adjacent sites in Namadgi National Park. It is considered that the best function for the area in Tidbinbilla designated as having wilderness values is as a buffer between the more developed wildlife enclosures/recreation in the valley floor and the higher quality wilderness areas in Namadgi National Park.

While it is recognised that some form of development may be required in this zone, this will be restricted to additional walking tracks, management trails, low impact furniture (such as forming a fallen tree into seating) and composting toilets at the car park entrances to walking trails.

Only low impact recreational activities such as walking and bird watching will be permitted in this area. The majority of activities and developments will be confined to the special purpose reserve. Where management objectives and activities within the national park zone of TNR are in conflict, e.g. where recreational use makes it difficult to conserve an endangered plant species at the same site, conservation requirements will be given the highest priority.

When completed, this management plan and the TNR Public Works Implementation Plan will offer some control over possible issues that may affect the two management zones. They will also control and manage the potential development pressure. It is important that the future direction for TNR be guided by this management plan.

There are unresolved native title claims over large areas of the national park zone. It is unknown when these claims will be resolved. This management plan will be reviewed, if necessary, when there is a resolution to determine if there will be any impact on land management.

### **3. MANAGEMENT ZONES**

#### **3.3.1 Management actions - management zones**

- a. Continue to contribute to the development of TNR Public Works Implementation Plan, ensuring proposals are consistent with this management plan and the overall management objectives of TNR (Section 2.2).**
- b. Provide for low impact recreation activities in the national park zone.**
- c. Manage each zone in accordance with the identified land uses.**
- d. Assess the viability and appropriateness to conservation values of providing concessions and/or establishing a commercial centre to cater for visitor needs.**
- e. Assess existing facilities and recreational activities to ensure that they are located at the most appropriate sites.**

## **4. MANAGEMENT OF NATURAL RESOURCES**

### **SPECIFIC MANAGEMENT OBJECTIVES**

- Understand the local climate and weather effects on TNR.
- Identify and minimise disturbance to important microclimates within TNR.
- Minimise human related damage to sites of geological and geomorphological significance.
- Identify and enhance, as appropriate, the landscape qualities of TNR and protect them from degradation through human activities.
- Conserve, rehabilitate and encourage regeneration of native plant communities.
- Protect and conserve native animals.
- Protect and conserve ecosystems to promote the long-term survival of native animals and plants and maintain their abundance and diversity, with particular emphasis on threatened species.
- Manage local native, feral and exotic animal populations and weed species to avoid adverse impact on TNR's natural resource values.

### **4.1 CLIMATE**

An understanding of the microclimates and weather conditions at TNR is important for protecting TNR's biodiversity and for planning developments such as walking tracks.

The climate of the Tidbinbilla district is a continental type with a marked variation in temperature during winter and summer. In summer high pressure systems can cause heat wave conditions resulting in hot inland air which quickly dries forest and grassland fuels increasing the risk of bushfires.

TNR's average annual rainfall varies from about 950 mm in the wetter western region to 650 mm at the front of the reserve with a fairly even distribution throughout the year. Unseasonably heavy rains occasionally cause extensive flooding and a study of flood history is appropriate prior to the development of tracks, trails or the placement of enclosures to avoid structural damage and ensure the safety of captive animals.

An official weather station is set up near the VIC to monitor temperature, rainfall, wind, cloud cover and visibility.

**4.1.1 Management actions - climate**

- a. Continue to record data from the weather station to a high standard.**
- b. Identify and record important microclimates in TNR.**
- c. Maintain accurate flood history records.**

**4.2 GEOLOGY, GEOMORPHOLOGY AND SOIL CONSERVATION**

The geological history of TNR dates back to the Ordovician period of between 500 and 450 million years ago.

TNR will maintain a central register of significant geological sites and this will be reflected in the management strategies developed to reduce possible impacts from future works and activities (Owen and Wyborn 1979). Significant sites will need to be closely monitored to assess the effects of natural and human influenced processes. This is particularly important in the special purpose reserve where proposed works and visitor numbers are greatest.

A number of sites are already used for geological interpretation activities within TNR including Bald Hill, Hanging Rock and the Turkey Hill Trail behind the VIC. These three localities provide good examples of the weathering process that produce the rounded corestones common in the area. TNR will continue to develop interpretative programs based on the geology of the area.

All soils within the reserve are susceptible to erosion and appropriate management practices are used to minimise erosion damage e.g. stabilising and rehabilitating sites after ripping rabbit warrens. Sites that are identified as significant, in terms of their high potential to erode, will be monitored. Any possible impacts from proposed works will be assessed so that minimal damage occurs to the sites.

**4.2.1 Management actions - geology, geomorphology and soil conservation**

- a. Maintain a central register of significant geological sites.**
- b. Develop management strategies to minimise impact by visitors.**
- c. Provide protection for significant sites by monitoring human and natural processes and assessing the impacts of proposed works.**
- d. Continue to develop and maintain a geological, resource-based, interpretative program relevant to the reserve to increase visitor knowledge and awareness.**

### 4.3 LANDSCAPE

Landscape refers to the visual resources of the physical environment and often extends beyond the physical boundary of the land area being managed to include surrounding land uses. Landscape which is dominated by Mt Tidbinbilla and Mt Domain is perhaps one of the most striking features of TNR providing a great divergence of form and colour. TNR's valley floor was originally covered in forest with small areas of *Poa* along the Tidbinbilla River.

The Aborigines made specific, limited use of localised seasonal resources such as the Bogong moth and there is little obvious evidence of alteration of the landscape by their practices. In contrast, the effect of the practices of early European settlers of the area can be seen in the present landscape. The lasting effect of the introduction of the selection of small freehold blocks in the late 1800s is apparent with the almost cleared valley floor.

The significant heritage sites in TNR have landscape values that must be managed and conserved (see Section 5). Notable sites include *Nil Desperandum*, the Rock Valley Homestead and gardens and the remnant orchard at Maxwell's and Farrer's hut site which provides evidence of ridge and furrow ploughing.

Many exotic trees in the reserve date back to the early occupation of the area by Europeans. Although providing an interesting and sometimes valuable addition to the landscape, these trees are of concern given their potential to sucker and spread.

Exotic trees with significant heritage or landscape value will be conserved, managed and controlled to prevent spreading, others may need to be removed. In some cases, renewal of senescent historic plantings will be considered (see Section 6.3).

An obvious issue relating to TNR's landscape is the presence of exotic pine plantations outside the reserve. These plantations provide a strong contrast in colour, form and texture to the native woodland of the reserve. Although the plantations do not form part of the reserve, it is important that the managers of the plantations are kept informed of developments within the park and that interpretative programs inform visitors to TNR of both the positive and negative aspects of plantations, e.g. the value of the pine forests over the harvesting of native forests; the replacement of native habitats; and soil erosion and control associated with harvesting.

Management strategies will be developed for invasive native plant species that impinge on the landscape values of the reserve. The management of TNR's landscape must be carried out in conjunction with the management objectives for native and exotic vegetation within the reserve (see Sections 4.4 and 6.3). Sites with landscape values will be identified and strategies put in place to protect these values.

When development occurs in TNR, disruption to the landscape will occur in the short term. It is important to incorporate a landscape plan into future developments to minimise the effects that developments may have on the visual environment.

#### 4.3.1 Management actions - landscapes

- a. Ensure future works and management activities within the reserve do not adversely impact on existing landscape values.
- b. Screen, rehabilitate, or otherwise treat visually unattractive areas.
- c. Develop strategies for the management and control of native and exotic plant species.
- d. Develop an interpretative program which relates both the positive and negative aspects of pine forests to the community.

#### 4.4 VEGETATION

##### 4.4.1 Background

Tidbinbilla Valley was originally covered by forest and woodland. It has undergone gradual change since the beginning of European settlement in the 1830s. Local land use patterns have had a major effect with areas being cleared for squatters' runs, small mixed farms, large-scale sheep grazing and the early development of hobby farms by Canberra residents. In the special purpose reserve, land uses have created a secondary grassland in place of original forests.

The vegetation types that occur within TNR need to be managed so as to retain the biodiversity of the area.

##### 4.4.2 Significant vegetation

Vegetation in TNR varies, *inter alia*, according to geology, temperature, altitude, aspect, slope and rainfall. Extensive information has been collected on TNR's vegetation through a number of surveys, the most thorough being that done by Ingwersen (1985). A list of vascular species for the reserve has also been prepared by Ward and Ingwersen (1988). A survey of the colonisation of pasture in TNR by burghan (*Kunzea ericoides*) was conducted by Kirschbaum and Williams (1991) and a management strategy for the grasstree has been prepared (Ormay and Ingwersen 1993).

Strategies will be developed for the management of significant vegetation sites, including sites that are important sites for wildlife, to ensure that they retain their significant status.

Among the 14 vegetation types, the significant vegetation sites in TNR include:

- The wet sclerophyll forest, alpine ash (*E. delegatensis*) and brown barrel ash (*E. fastigata*) community, on the western side of the reserve which is close to the margins of the geographical range of the alpine ash (Ingwersen 1985);
- The *Themeda* habitat of the morabine grasshopper, *Keyacris scurra*, which is covered with clustered everlasting daisy (*Helichrysum semipapposum*) near Gibraltar Peak. This grasshopper exhibits uncommon chromosomal variation which has been the subject of extensive genetic research;
- Areas of *Banksia* that exhibit great density compared to the species sparseness in other areas of the ACT;
- Exotic plantings at Nil Desperandum and Rock Valley homestead (orchard and mature trees); and
- The swamp area in the picnic and barbecue area which provides habitat for the southern toadlet (*Pseudophryne dendyi*);

#### 4. MANAGEMENT OF NATURAL RESOURCES

Exotic species (non-native) relevant to cultural heritage sites, such as the orchard and other exotic trees at Rock Valley Homestead, will be managed consistently with relevant conservation plans and in consultation with ACT Heritage.

A management strategy for rare or threatened species and exotic species, including invasive plants, within TNR, will be prepared based on cultural heritage values and aesthetic values.

##### 4.4.3 Revegetation

Revegetation work will be carried out along river and creek banks and islands within the waterbird area where extensive blackberry infestation has been removed. This will ensure bank stability and reduce the opportunity for soil erosion and weed invasion. Revegetation is also a management option in areas that are not required to complement significant cultural sites where such action would not have an adverse effect on areas of native vegetation. Areas of grassland on the valley floor will not be replanted with trees.

##### 4.4.4 Management actions - vegetation

- a. **Protect, conserve and rehabilitate wildlife habitat within TNR.**
- b. **Develop management strategies for rare, threatened, invasive, non-local and exotic species of vegetation in TNR where appropriate.**
- c. **Identify opportunities for regeneration and rehabilitation.**
- d. **Develop a register of significant vegetation sites within the reserve and incorporate the information into the GIS.**
- e. **Prepare conservation strategies for threatened native plant species and provide for long term monitoring.**
- f. **Reintroduce endemic native plant species if appropriate.**
- g. **Continue to carry out ecological surveys of species and vegetation dynamics within TNR.**

#### 4.5 NATIVE FAUNA

TNR provides habitat for a wide range of native vertebrate fauna including one hundred and sixty four bird species; a variety of reptiles, fish and amphibians and a diversity of mammals including several bat species (see Appendix 4 for more detail.). TNR also includes a site which serves as a shelter or staging site for the bogong moth (*Agrotis infusa*) in October to November.

All native animals in the ACT are protected under the provisions of the *Nature Conservation Act 1980*. Habitat protection, vertebrate pest control, population management and controls are important management considerations for ensuring the future protection of locally occurring species. Environment ACT has a role to play in ensuring local species do not become threatened in the future.

**Fishing is prohibited in the waters within TNR.**

Animal populations fluctuate depending on factors such as weather, predator numbers and availability of food and shelter. Specific management strategies may be considered where a species is the cause of damage or long-term alteration to habitats, or requires access to more suitable habitat.

The numbers of animals and their subsequent damage to vegetation must be closely monitored. Management strategies will be prepared as soon as practicable for selected free-ranging and all captive wildlife. Kangaroo management will be guided by the reports of the ACT Government's Kangaroo Advisory Committee and will be undertaken in a humane way employing, where practicable, non-lethal control techniques.

Feeding and handling free-ranging wildlife by visitors within the reserve will continue to be actively discouraged. Feeding interferes with the natural diet of the animals, may lead to inappropriate behaviour of the animals with possible harm to visitors and creates conflict with TNR's Encounter Wildlife theme which is based on a natural setting with limited or no human intervention.

**Any trapping or handling of free-ranging animals by Rangers for education or interpretation purposes will be carried out in accordance with animal welfare codes of practice. Use of wildlife for research purposes requires Ethics Committee approval. Management of native animals at TNR will be subject to ACT Government codes of practice, policies and guidelines in relation to conservation, animal welfare, population control and animal husbandry.**

Interpretation about locally occurring species will continue to be carried out during Ranger-guided walks where animals and their habitat are used to expand on the themes and objectives of TNR. Written materials and signage also assist in interpretation.

**The release into the wild in TNR of native animals which have not originated locally must be subject to comprehensive assessment by the Reserve's Wildlife Officer after appropriate consultation with relevant authorities. Consideration must be given to the impact on existing populations, the need to preserve gene pools, habitat and environmental impact, animal welfare and the contribution the animal/species will make to TNR's objectives and local and national recovery plans and be consistent with any Action Plan for a species or ecological community that is declared threatened with extinction under the Nature Conservation Act.**

The release of exotic species at TNR is prohibited by the NCA 1980. TNR will provide a focus for the reintroduction of locally extinct species and the management of locally threatened species (also see Section 10).

#### 4.5.1 Management actions - native fauna

- a. Protect, conserve and rehabilitate wildlife habitat within TNR.**
- b. Prepare management strategies as soon as practicable for selected free-ranging and all captive wildlife.**
- c. Establish monitoring programs for at-risk or potential problem species.**
- d. Manage selected free-ranging native animal populations by means of humane and where practicable non-lethal techniques.**
- e. Explore the feasibility of reintroduction of locally extinct species.**
- f. Continue to develop interpretation programs that use the attraction of captive species in TNR to highlight and explain the requirements of free-ranging native species, in support of the reserve's objectives.**



## **5. MANAGEMENT OF CULTURAL HERITAGE RESOURCES**

### **SPECIFIC MANAGEMENT OBJECTIVES**

- **Maintain modified areas where appropriate and manage and interpret exotic plantings with heritage values.**
- **Ensure Aboriginal and European cultural heritage places and objects in TNR are protected and conserved.**
- **Present appropriate sites for interpretation to enhance visitor knowledge and understanding of heritage values and how they relate to TNR.**

### **5.1 BACKGROUND**

It is important to recognise that TNR's main role centres on conservation of natural values and associated education, research and tourism/recreation activities. The majority of TNR's resources are devoted to this responsibility. However, TNR acknowledges the significance of the cultural heritage values within the reserve and has established a Sites of Significance database. Management ensures that relevant policy and procedures are followed for protecting and conserving sites and objects. Avenues will be explored to seek extra funding for the correct storage and display of the artefact collection and the promotion of appropriate cultural sites. The participation of representatives of local Aboriginal groups will be sought in developing this function.

Archaeological consultants were commissioned to prepare an inventory of and European cultural sites within TNR (Boot and Bulbeck 1991). They also developed a strategy for the conservation and interpretation of those sites. Their findings revealed a wealth of prehistoric and historical cultural resources and identified a great number of significant sites. A computerised database of significant sites has been established at TNR to complement the report. Cultural heritage values within the reserve are incorporated into interpretation activities and the display at the VIC includes a cultural heritage element.

All TNR staff are required to observe a strict internal procedure if they discover potential new cultural sites in the course of their daily duties.

To ensure consistency, buildings, sites and objects will be assessed against the criteria detailed in Schedule 2 of the Land Act to establish the level of cultural significance and to ensure protection where required. The criteria used by Boot and Bulbeck (1991) may be used to assist in making an assessment. Sites will then be prioritised for allocation of resources and development of management strategies.

**The provisions of the Land Act and the *Heritage Objects Act 1992* are adhered to in the management of cultural heritage within TNR and all proposed development sites are assessed to avoid disturbance to significant sites or objects.**

## 5.2 PROTECTION AND INTERPRETATION OF CULTURAL HERITAGE

### 5.2.1 Interpretation

An interpretative program will be implemented which:

- Is based on consultation with local Aboriginal groups where appropriate;
- Chooses appropriate places which are resilient to disturbance and have high educational value;
- Identifies themes and stories;
- Avoids sensitive areas;
- Identifies opportunities for community involvement, especially of the Aboriginal community; and
- Identifies cost recovery mechanisms taking into account issues of social equity.

### 5.2.2 Aboriginal Heritage

TNR is recognised as a highly significant Aboriginal place with the highest density of artefacts found in the ACT (Boot and Bulbeck 1991). As a result of limited development TNR's Aboriginal heritage values have remained largely intact. Evidence of Aboriginal occupation in TNR includes open artefact scatters, prehistoric rock shelters, stone arrangements and other sites of significance. The most important sites are Birrigai Rock Shelter, Bogong Cave and Tidbinbilla Mountain (Flood 1980, Flood *et al.* 1987).

From a management perspective local Aboriginal groups have a right and responsibility to comment on the management of TNR's Aboriginal heritage. ACT Heritage has an important role to play in providing expert advice and guidance to TNR in the conservation and management of these important values.

Under Section 70 of the Land Act, it is an offence to disturb, damage or destroy an unregistered Aboriginal place, unless the place has been registered and that registration subsequently reversed. Removing an Aboriginal artefact from an Aboriginal place is considered to disturb and damage a site. All development sites should be surveyed for Aboriginal artefacts prior to disturbance.

#### ***Birrigai Rock Shelter***

This site which is located near the south-eastern boundary of TNR, is the oldest Aboriginal site known in the ACT region and is about 21,000 years old (Boot and Bulbeck 1991, Flood *et al.* 1987). The shelter is included in the recently developed Time Trail walk which involves the construction of a viewing platform and provision of interpretation material at the site.

#### ***Bogong Rocks***

The Bogong Shelter is located between Kangaroo Flat and Billy Billy rocks and contains the oldest evidence of Aboriginal occupation at a bogong moth resting or staging site in TNR. The bogong moth was an important seasonal food source associated with Aboriginal ceremonial life in the southeast highlands (Flood 1980).

### ***Tidbinbilla Mountain***

It is believed that this site was used for initiation ceremonies and was sacred to the local Aboriginal people. The name Tidbinbilla is a corruption of "jedbinbilla", an Aboriginal name which means "where boys become men" (Boot and Bulbeck 1991).

### **5.2.3 European Heritage**

As a 'cultural landscape' assessed against criteria recommended by the Australian Heritage Commission, the historical and social values of TNR's European heritage rank as high. The agricultural history of the reserve mirrors that of the wider region and the aesthetic and natural significance of the valley is also high. The importance of TNR is reflected in its listing on the Register of the National Estate.

TNR provides over one hundred years of land tenancy history. This includes changes from squatters to free selectors, freehold title to leasehold title and finally, inclusion in the reserve as a national park (Boot and Bulbeck 1991, Ingwersen nd). TNR contains excellent examples of early rural structures and equipment, possibly the most culturally significant eucalyptus distillery in the ACT, and timber extraction. It provides evidence of early biological research and fauna conservation in the old koala enclosure near Hurdle Creek and William Farrer's hut site which provides an important link to wheat research carried out at Lanyon.

In recognition of the importance of heritage values, TNR's current management strategy is to commission a conservation plan for sites of major significance and to use the findings as a guideline for management. The Tidbinbilla Pioneers Association is also a source of considerable historical information and has an important role to play in the management of European heritage within TNR. The two most tangible examples of European cultural heritage within TNR are Nil Desperandum and the Rock Valley Homestead.

### ***Nil Desperandum***

Nil Desperandum is an historic rammed earth residence located alongside Hurdle Creek and built between 1896 and 1899. It is a four roomed house with the remains of a eucalypt distillery nearby, the 'best example in the ACT of a largely intact eucalypt still' (Freeman *et al.* 1994, Vol. 1). The Commonwealth Government resumed Nil Desperandum in 1988 from the then owner, Phillip Gilmour. It was then transferred to the ACT Government and incorporated into the boundaries of TNR in 1991.

A conservation plan was prepared for Nil Desperandum in 1991 (Pinkava 1990). In 1995 an additional, detailed conservation plan was released (Freeman *et al.* 1994 Vol. 1,2,3). The latter plan provides a detailed history of the site, explains the heritage significance of the area, provides a policy for the conservation of the site and recommendations for its use. The underlying theme of the report is to maintain the building as a residence. A management strategy will be prepared for the future use of Nil Desperandum.

### ***Rock Valley Homestead***

This building is located within the special purpose reserve and represents various stages in the history of its inhabitants. The homestead dates back to 1895 and was occupied by the Green family (Flint 1983). In 1968 the property was resumed by the Commonwealth Government for inclusion in TNR. Recent use of the homestead has been for storage and staff accommodation.

A building report prepared by ACT Public Works (Unpublished.) on behalf of Environment ACT, identified a number of options for adaptive reuse, listing advantages and disadvantages. The options included:

## 5. MANAGEMENT OF CULTURAL HERITAGE RESOURCES

- reinstating the 1905 pipe building group to accommodate a museum;
- retaining sufficient evidence of the 1920 additions to indicate contemporary use of the buildings and reuse the depot area for visitor facilities; and
- retain all of the building complex to accommodate education/conference groups.

The site has also been identified as having potential for use as a coffee shop/art gallery or as a heritage and interpretation/education centre emphasising the human history of the area. An extensive amount of renovation work was carried out during 1993 and 1994 to bring the homestead to its current state.

**It is recommended that the homestead remain occupied by TNR staff in the interim to avoid further deterioration of the building and a management strategy/conservation plan be developed for its future use.**

### 5.2.4 Management actions - cultural resources

- a. Conserve and protect cultural sites within TNR from damage, disturbance or gradual decay wherever possible.**
- b. Continue to implement a cultural heritage interpretative program and interpret cultural heritage sites where they directly relate to the rest of TNR and its objectives.**
- c. Continue to develop the sites of significance data base.**
- d. Develop a management strategy and an interpretation policy for Nil Desperandum.**
- e. Develop a management strategy/conservation plan for future use of Rock Valley Homestead.**
- f. Promote appropriate sites and the storage and display of artefacts held at TNR.**
- g. Commission a conservation plan for sites of major significance and use the findings as a guideline for management.**
- h. Use Schedule 2 of the Land Act, with the assistance of Boot and Bulbeck's (1991) criteria, when assessing buildings, sites and objects.**
- i. Seek comment on the management of TNR's Aboriginal heritage from local Aboriginal groups.**

## **6. MANAGEMENT FOR PROTECTION OF THE ENVIRONMENT**

### **SPECIFIC MANAGEMENT OBJECTIVES**

- Establish management strategies for control of pollutants and wastes generated within TNR to limit potential environmental impact.
- Protect life and property from fire.
- Protect the natural and cultural resources of TNR and adjacent areas from the damaging effects of wildfire, while promoting natural processes.
- Develop fire management strategies to minimise ecologically adverse impacts of bushfire on TNR wildlife and damage to facilities.
- Minimise the introduction, establishment and spread of pest plants in TNR.
- Manage feral and exotic animal species of actual or potential environmental concern, using humane methods and with minimal impact on non-target species.
- Promote community awareness and understanding of the need to manage both non-native and native species of plants and animals.

### **6.1 WASTE MANAGEMENT AND POLLUTION CONTROL**

#### **6.1.1 Background**

Potential sources of wastes or pollution from within TNR include: fires; litter; human and animal wastes; chemicals; mechanical plant related oil/petrol spills; vegetation growth control activities, e.g. prunings, spraying; and past land uses.

#### **6.1.2 Waste management**

It is important to manage and control waste and pollution to minimise any possible detrimental effect on the range of values of TNR. TNR will continue to liaise with the appropriate authorities, such as the Environment Protection Authority, to ensure a consistent approach to the prevention and control of pollution.

Strategies will need to be developed to control pollutants and waste generated within the reserve. This will ensure that any potential problems are avoided.

#### **Litter**

Collection and disposal of litter involves the use of precious resources. A management decision to remove bins from TNR, request visitors to take their rubbish home, and encourage a reduction in waste generated by other user groups was based on the need to cut costs, eliminate the danger to wildlife, cut down on the creation of rubbish and to encourage recycling. An extensive education program was devised and rubbish is no longer a major problem in the reserve.

An enclosure has been erected near the bulk storage area at the depot complex for holding staff-generated non-biodegradable waste prior to removal.

**All public rubbish bins have been removed from TNR and future refuse will be stored and taken off-site for disposal in a manner consistent with current ACT practices.**

### **Recycling**

Recycling has been introduced for office and employee waste and the low volume of litter collected at TNR. Bins are provided for staff at the depot for glass, plastic, aluminium and paper recycling. Material is conveyed to the recycling depots when required. This practice will continue.

#### **6.1.3 Pollution control**

##### **Air pollution**

Smoke from hazard reduction burns and bushfires is a perceived form of air pollution. When controlled burning is carried out in TNR a set procedure is followed which is subject to air pollution controls under the *Air Pollution Act 1984*. The incidence of bush fires in TNR is low (see Section 6.2.) and TNR's location far from the built up area further limits the potential for minor inconvenience or irritation to Canberra residents from smoke.

##### **Water pollution**

With the Tidbinbilla River and a network of streams and creeks running through TNR, the control of water pollution is a high priority. The Friends of Tidbinbilla monitor water quality at three sites within TNR as part of the National Water Watch Program. Testing is carried out for nine separate Water Watch categories such as turbidity, temperature and phosphorous. Results to date indicate that the water within the reserve, and as it leaves the reserve, is of high quality.

However the waterbird area has previously been identified as a source of pollution, caused by feeding a diet of meat to specific waterfowl. The polluted water from this area occasionally flows directly into the Tidbinbilla River, which is used by adjoining neighbours as drinking water and for household use. A change in management strategies has led to improved water quality. However, after heavy rain, or rainfalls after a drought period, bacterial levels greatly increase in run-off through all enclosures. This problem is common to all areas where stock graze.

##### **Sewage**

Current toilet facilities are based on a septic system and are pumped out regularly. Waste is transported to the Lower Molonglo Water Quality Control Centre by a private contractor.

**Future facilities will be based on building guidelines current at the time, incorporating the most acceptable environmentally sensitive technology.**

**6.1.4 Management actions - waste management and pollution control**

- a. Continue to encourage recycling through staff and visitor programs and by maintaining a 'no bins' policy.
- b. Continue to monitor water quality in TNR.
- c. Establish strategies to control pollutants and waste that is generated within TNR.
- d. Liaise with other relevant agencies and neighbours to ensure a consistent approach to pollution and waste management.

**6.2 BUSHFIRE/FIRE MANAGEMENT**

**6.2.1 Background**

Bushfire suppression and fire fuel management in the ACT is governed by the *Bushfire Act 1936*. The ACT Bushfire Council (BFC) has authority under this Act to :

*'...take such action as it deems necessary to prevent the outbreak or spread of fire and to protect...life and property in any part of the territory...'*

The Act also requires ACT Government land managers to:

*'...take such measures as are reasonable in the circumstances to prevent and inhibit the outbreak and spread of fire on that land and to protect property from fire on that land or spreading from that land...'*

and requires:

*' each manager of an area of bushfire-prone Government land to ensure that the area is subject of a draft fuel management plan submitted to the Minister for approval*  
*(a) within 12 months after the commencement of this section; and*  
*(b) thereafter at intervals not exceeding 2 years commencing on the day on which the latest fuel management plan for the area was made...'*

The *Bushfire Act 1936* overrides other legislation.

Environment ACT works closely with the ACT Emergency Services Bureau (ESB) in all matters relating to bush fire management. Environment ACT provides personnel and equipment which work at the direction of the ESB on the suppression of bush fire in the ACT. Similarly other resources working under the direction of the ESB work on the suppression of bush fire in areas controlled by Environment ACT.

Environment ACT will also ensure air pollution is minimised when control burning is carried out, as required under the *Air Pollution Act 1984*.

### 6.2.2 Fire Management Planning

A combination of factors, including climate, location, topography and limited risk of ignition by people has protected TNR from an extensive fire history. This lack of history, however, does not imply a lack of fire risk.

Environment ACT will continue to manage bushfire fuels and prepare fuel management plans in accordance with the Bushfire Act. Detailed prescriptions for fire protection and strategies for fire control will be developed with input from the ESB. Fuel management will be undertaken in the context of the broader ACT Bushfire Fuel Management Plan.

A number of policy documents relate to fire management in the Territory and Environment ACT policy has direct relevance to the fire management strategies employed at TNR. At TNR, fire management will be in accordance with these documents.

- **The Rural Fire Control Manual** (ACT Bush Fire Council, 1992) is the basis for all field action in fire suppression in the ACT.
- **The Fire Management Policy for Nature Conservation Areas** outlines Environment ACT policy regarding its bushfire related responsibilities and objectives, planning, ecological principles to be considered, hazard assessment, management strategies (including the provision of appropriate access) and preparedness. This will become part of the Bushfire Fuel Management Plan.
- **The Fire Action Plan** is an annual document that specifies the operational practices for fire control and suppression. It provides details of local resources (fire crews and equipment), reporting procedures, states of readiness, total fire ban practices, lines of communication and inter agency arrangements.
- **The Bushfire Fuel Management Plan** explains legal responsibilities, sets policy for fuel management and identifies strategies and actions to reduce the occurrence of wildfire and mitigate assessed fire hazard on unleased public land.

The Bushfire Fuel Management Plan recognises three fire management units based on visitor use, topography and vegetation types. Each one of these units is assessed as to its capital assets, significant sites, values and sensitive areas, fire history since 1976, hazard analysis and the actions that will taken to reduce the fire risk.

#### Asset protection

In summer months the prevailing winds are from the north-west, but can be modified by terrain resulting in an evening easterly circulation and valley winds. Wind direction influences the direction of fires, and together with factors such as slope and vegetation, it is important in influencing the need and size of firebreaks around facilities and installations.

TNR's main communication centre is located within the VIC which is constructed of a highly combustible timber cladding. The area surrounding the VIC is regularly watered, mown and fertilised to provide a fire break in the event of a bushfire. Staff accommodation is protected through slashing and mowing and the maintenance of green grass. Both the depot and the VIC are equipped with fire extinguishers, emergency exits and hose and reel facilities. The wildlife support area is equipped with hose and reel facilities, extinguishers and ready access to a dam. In the interest of staff safety and asset management, building fire safety measures will be assessed and upgraded as required.



### **Prevention of bushfires**

Environment ACT will be active in :

- providing an **annual works program** for fuel management which is in line with the Bushfire Fuel Management Plan ;
- providing **education and information**, in consultation with the ESB, to highlight both the potential advantages and disadvantages of the incidence of fire in TNR;
- **consulting and communicating** with the community to increase awareness and understanding of the potential risks and dangers of bushfire and actions that individuals can take to minimise the risk;
- continuing to rely on **fire hazard data** from the ESB to plan for appropriate management responses including the development of fire hazard reduction procedures and in preparing works programs;
- carrying out a regular **slashing and mowing** program in the special purpose reserve based on hazard assessment;
- developing a **fuel reduction burning** program that considers natural cycles including preparing and consulting on pre-burn proposals, and on identified areas, in accordance with the Bushfire Act and the Air Pollution Act;
- **consulting** neighbours and users of TNR in relation to control burning programs and encouraging their participation in management, including in fuel reduction;
- **co-operating with the ESB** to provide training to Environment ACT staff to ensure the effective implementation of fire management strategies, and to provide for employee safety;
- ensuring **proper access** and passage of management vehicles by designing, siting, and **maintaining access trails** and multi purpose (management access) trails in accordance with standard specifications (these will all serve as fire control lines); and
- **closure of or restriction of access** to the reserve during periods of **total fire ban**.

The following considerations are taken into account in controlling bushfire in TNR :

- **early detection and rapid response**;
- the use of **natural and already occurring fire breaks**, and back burning in preference to construction of new tracks and fire breaks; and
- the **use of chemical fire retardants**, (these should not be used in areas which may suffer adverse environmental impacts or where there is rare or endangered flora and fauna, e.g. phosphorus based retardants will have a long term effect on native vegetation and may affect aquatic life and frogs).

Some native plant species have evolved with fire and some of these require fire for seed release. Where possible these areas should be identified on planning maps. Where life and property are not at risk, good management may require a decision to allow a bushfire to pass through an area. Any such decision will be made by the Chief Fire Control Officer.

### **Access trails for fire control**

Multi-purpose trails, as shown in Figure 2 (as roads), that are used for management access and that require maintenance for fire access will be identified in the Bushfire Fuel Management Plan. This Plan will also list the standards and categories for these trails. The siting, design and maintenance of access trails are important considerations in planning for fire control.

### Fire control

Control of any wildfire in TNR is the responsibility of the Chief Fire Control Officer. However, where practicable and convenient to control operations, a senior staff member of Environment ACT will be appointed to the incident management team or assume an Agency Representative position as per the ACT Bushfire Service incident management arrangements.

### Issues

Previous hazard reduction burning in and around the koala enclosure has been found to have a detrimental effect on the ribbon gums (*E. viminalis*). A strategy that minimises this effect and provides the necessary protection will be investigated.

#### 6.2.3 Management actions - bushfire/fire management

- a. Implement the actions identified in the Bushfire Fuel Management Plan in conjunction with other ACT government land managers.
- b. Participate with the Emergency Services Bureau in the control of bushfires, and continue employee participation in the Environment ACT and Bushfire Council sponsored training programs.
- c. Prepare maps showing areas where chemical fire retardants should not be used and where fire would be beneficial or otherwise for native vegetation and fauna.
- d. Maintain fire trails to accepted standards.
- e. Assist in preparing the annual Fire Action Plan.
- f. Develop and implement a strategy to minimise the effect of hazard reduction burning on *E. viminalis* around the koala enclosure, whilst ensuring adequate protection.
- g. Continue liaising with neighbouring property owners about fire management.
- h. Closure of the reserve during periods of total fire ban.

### 6.3 PEST PLANT AND EXOTIC PLANT MANAGEMENT

#### 6.3.1 Background

Pest plants are defined as species which, because of their characteristics and location, are causing ecological, physical, economic or aesthetic problems. They may include non-Australian plants, some Australian plants from outside the local region and, in exceptional circumstances, plants that occur naturally in an area. It is important to promote community awareness and understanding of the need to manage all non-native species, and invasive native pest plant species.

Exotic plants are plants not native to the local area or region and which have been deliberately introduced to a locality (Meagher 1991). Exotic plantings in TNR can be found in heritage areas such as the remnant orchard at Maxwell's and Farrer's hut site.

The ACT Government Weeds Committee determines procedures for pest plant control across the ACT. It has recently co-ordinated the development of an ACT Weeds Strategy which is a ten year strategy for implementing a co-ordinated program for controlling weeds in the ACT. The 1996 ACT Weeds Strategy provides a process for effective and efficient weed control throughout the

ACT. It defines roles and responsibilities for weed control, sets strategic actions to be undertaken and establishes priorities for weed control. Weed control in TNR will be in accord with this Strategy.

### 6.3.2 Exotic plantings

The occurrence of many pest plants in TNR is a legacy of past land use. With the use of the special purpose reserve area for agriculture from the 1830s, sweet briar (*Rosa rubiginosa*), blackberry (*Rubus fruticosus*), thistle species, exotic grasses and trees such as willows (*Salix spp.*), poplars (*Populus spp.*) and fruit trees (e.g. apple, plum, quince) were introduced (Boot and Bulbeck 1991). These still exist in some areas. Some less invasive species introduced by European settlers for landscape amenity (such as cypress pines), windbreaks and fruit are retained for their cultural and heritage value within the reserve while others are regularly subject to control programs (see Section 4.3.).

### 6.3.3 Pest plants

The most visual pest plant in TNR is radiata or Monterey pine (*Pinus radiata*). The increasing infestation of pine wildings in high areas of the Tidbinbilla Range and in Oakey Creek from bordering commercial pine plantations managed by ACT Forests requires control within TNR's boundary. With past clearing practices the naturally occurring tea tree species, burgan (*Kunzea ericoides*) has had the opportunity to become invasive in some areas of TNR and the surrounding areas of Paddys River valley. Control of burgan may be necessary to maintain the open aspect of the valley floor.

The special purpose reserve zone of TNR has been highly modified with a large number of pest plant species, such as thistle, St John's wort, blackberry, sweet briar, purple top and fleabane that place great demand on control programs. The national park has largely natural vegetation with high conservation value. This area has limited public access, a low number of pest species and low level of infestation. It will be managed to ensure the situation does not deteriorate.

TNR is a member of the Paddys River Landcare Catchment Group which has identified and prioritised pest plants for control within the catchment. The target species are in sympathy with the ACT Weeds Strategy and a co-ordinated program is in place for TNR and its neighbours.

Priority species for control will be programmed each year according to resources and the growth characteristics of each target species. The consequences or loss of ecological quality resulting from the spread of a pest plant will also be considered. For example, because the potential for reintroduction of St John's wort is higher than for pine wildings, there is more value in following up previous year's efforts for the first species rather than the second.

TNR currently uses chemical, manual and biological control methods to remove pest plants and liaises with neighbouring landholders and NSW authorities to maintain a regional approach to pest plant control. Chemicals are chosen according to their efficacy, impact on the environment and non target species, biodegradability and risk to human health and safety.

All chemical use will be in accordance with current OH&S policies and label specifications which are in accordance with the *Pesticides Act 1989*.

Rehabilitation work is carried out where necessary after pest plant removal. Plants of local provenance are used for revegetation. The assistance of volunteers is sometimes sought for revegetation programs. Where such assistance is sought, appropriate training in procedures and safety will be given

#### 6.3.4 Management actions - pest plant and exotic plant management

- a. Continue to monitor and control pest plant species in accordance with the ACT Weeds Strategy.
- b. Detect, monitor and control new pest species as required.
- c. Continue to monitor and record details of eradication methods and success rates to assist management in future control programs.
- d. Continue to assess the cultural and heritage value of exotic plantings and introduce strategies for their management.
- e. Continue to provide appropriate training to all volunteers assisting with pest plant control activities.

### 6.4 PEST ANIMAL MANAGEMENT

#### 6.4.1 Background

The land use history of the south-east region of Australia, and the pattern of introductions of exotic animal species to Australia, has left a legacy of animals with real or perceived adverse effects on TNR. The most obvious non-native animals in TNR are rabbits, pigs, foxes, wild dogs, feral cats, blackbirds, starlings, sparrows, bees and trout.

Non-native animals may threaten natural resource values of TNR through land degradation, habitat destruction, competition for food and resources with native species and preying on native species. Where it is possible to prevent or lessen these threats by cost effective and ethically acceptable means, management programs are implemented.

#### 6.4.2 Control of pest animals

Much work has been done over the last twenty years to reduce rabbit numbers at TNR. Effective techniques have included the introduction of the European rabbit flea to improve the spread of myxomatosis, poisoning, and warren removal. The recent release of the rabbit calicivirus in the ACT is expected to suppress the rabbit population. Follow-up rabbit warren destruction and monitoring will be required. Continuing maintenance control is essential to prevent increases in rabbit numbers and their effects on the environment.

Groups of feral pigs appear in TNR a few times each year. They have been dealt with by trapping and in recent years TNR has participated in a pre-emptive annual pig poisoning program in the region.

TNR conducts an effective fox control program. The program is being used as a demonstration trial to gain further information about fox control and to promote 'best practice' in the region. Localised control programs for wild dogs and feral cats are conducted when required.

Goats were abundant on the Tidbinbilla Range in the early 1970s. A shooting program then eliminated them from the Tidbinbilla area. They have so far failed to re-invade, almost certainly because they are preyed upon by wild dogs/dingoes. Monitoring is required.

Control programs in TNR will comply with relevant ACT or national codes of practice and nationally accepted guidelines. These include the ACT Code of Practice for the Humane Control of the Fox, the Standing Committee on Agriculture, Animal Health Committee (national) code of practice 'Feral Livestock Animals: Destruction, or Capture, Handling and Marketing' and the "Managing Vertebrate Pests" series of national guidelines (Bureau of Resource Science and CSIRO).

All methods of control are used strictly according to established policy and guidelines. Staff involved in control methods have received the necessary training in accordance with Occupational Health and Safety guidelines.

Ongoing monitoring and research is required to ensure best practice is followed in controlling pest animals.

**Control priorities and conduct of control programs for exotic vertebrates in TNR will be in accordance with ACT and national codes of practice, OH&S policies and the Pesticides Act and will be based on the following criteria:**

- **Impact of the target species on natural values;**
- **Likelihood that the program will achieve effective impact reduction;**
- **Disease carrying capacity of the species;**
- **Likelihood that the effect of the program will be limited to target species or beneficial to any native species affected;**
- **Cost of the program;**
- **Animal welfare of target animals and other animals affected; and**
- **Safety of operators, staff and other people.**

Animals other than endemic wildlife, except for designated companion animals accompanying people with hearing or sight impairment, are prohibited in TNR by the NCA 1980. Domestic animals that stray into TNR, including dogs and livestock, are caught and impounded.

#### **6.4.3 Management actions - pest animal management**

- a. Continue to monitor and control feral and exotic vertebrates in TNR.**
- b. Maintain contact with sources of research information on vertebrate pest control and the impact of pest species.**
- c. Continue to prohibit the entry of domestic animals into the reserve.**



## **7. MANAGEMENT FOR VISITOR USE**

### **SPECIFIC MANAGEMENT OBJECTIVES**

- Provide appropriate access, facilities and signage for all visitors including people with disabilities.
- Provide and maintain a broad range of high quality recreation activities in a natural setting for Canberra residents and tourists.
- Provide opportunities for visitors to encounter free-ranging local animal wildlife in their natural habitat.
- Design facilities and manage TNR to ensure a high level of public safety.
- Confine future development, where possible, to the special purpose.
- Contribute to regional tourism through the provision of high quality visitor facilities and delivery of appropriate interpretation and education programs.
- Provide an opportunity for environmentally responsible commercial tourism ventures and developments which are designed and managed to have low impact.
- Participate in the development and implementation of mechanisms to charge for services, accept funds and realise financial advantages, including through sponsorships.

### **7.1 BACKGROUND**

TNR is located on Tourist Drive 5, forty kilometres from Canberra's City centre and a shorter drive from the southern suburbs. It is easily accessed by car and open to the public during daylight hours. It offers a variety of recreation and interpretation opportunities for visitors.

A Visitor Information Centre (VIC) provides visitors with information on the layout of TNR; where to find an area appropriate for the activities visitors wish to enjoy; the location of wildlife enclosures; starting points for walks; information about the wildlife people can encounter; and advice on Ranger-guided activities. It also acts as a meeting place for groups of visitors and offers a small retail outlet for the purchase of quality souvenirs.

The NCA 1980 prohibits domestic animals being taken into parks and reserves. An exception is made for companion animals which may accompany people with hearing or sight impairment, i.e. guide dogs and hearing dogs.

Detailed development proposals for the special purpose reserve of TNR are contained in the Public Works Implementation Plan.

### **7.2 ACCESS AND FACILITIES**

Providing recreational opportunities is one of the main objectives of TNR. Surveys reveal the most popular visitor attractions in TNR are the wildlife enclosures, barbecue/picnic facilities and bush walking opportunities (Cochrane and Malouf, Unpublished, Grogger *et al.* Unpublished). These surveys also indicate that a trip to the VIC can increase the number of sites visited in the reserve and the duration of stay experienced.

Access to recreation opportunities within TNR is by vehicle (car, bus or bicycle), with some distance between barbecue facilities, the VIC and animal enclosures. Extensive parking is provided for cars and buses and the speed limit within TNR is 35 km per hour to ensure the safety of both visitors and wildlife.

There is scope for further investigation of transport options within TNR and this may include the use of a people mover system operating in a circuit through the reserve, commencing at the VIC, with set pick up and drop off times and locations.

An expansion program has been implemented for the barbecue and picnic areas. Particular attention has been given to improvements such as better vehicle and pedestrian circulation, landscaping, additional barbecues, phasing out of wood burning barbecues and a wet weather shelter. Provision for vehicle-based picnicking is made through the strategic placement of picnic tables along the ring road.

The existing wildlife enclosures are maintained and upgraded regularly. A new brush-tailed rock-wallaby (*Petrogale penicillata*) enclosure has been constructed opposite the current kangaroo enclosure car park and a viewing facility has been provided to the side of the car park.

Signage conveys directional information for visitors and specific conservation messages. Signage is currently being improved throughout TNR to provide more clarity so visitors can easily find their way and understand their options both within and between enclosures and other attractions.

The walkways and nature trails of TNR are maintained regularly and repaired on a priority basis. The newest walkway in TNR is the Birrigai Time Trail which includes significant Aboriginal and European heritage sites. Most walkways within the wildlife enclosures are suitable for prams and wheelchairs and will continue to be maintained to ensure this suitability.

A need has been established for a hierarchy of trails within and between the enclosures. A hierarchy of trails will enable visitors to adapt their activities to best suit their requirements. The system will provide long and short walk options, a variety of entry and exit points to the trails, and a range of difficulty. The system will be clearly marked and, where necessary, new trails will be added or older trails modified.

Disabled and wheelchair access is available at all toilet blocks and the VIC. Pedestrians are encouraged to use established paths where provided.

It is important that the effect of visitors on TNR through the use of recreation facilities be monitored. With TNR being promoted as a high quality venue for nature based tourism, visitor numbers and impacts are expected to increase. Potential areas for concern from excessive visitor use include:

- An increase in litter and refuse;
- Vandalism to facilities;
- Increased demand on toilet facilities and water supply;
- Erosion and degradation of areas through increased wear and tear; and
- Increased call on resources.

Visitor numbers to TNR are recorded on a daily basis and surveys are carried out to ascertain visitor use. Visitation demand will be measured by monitoring TNR's natural and human made resources, by assessing the level of maintenance required to tracks, car parks and facilities and visitor surveys.

Marketing and tourist studies have identified the potential for an increase in the public use of TNR (Capital Public Affairs Consultants *et al.* 1995, ACTPCS and Canberra Tourism 1996, Canberra Tourism Commission 1996, Nature Based Tourism Strategy 1997) for nature based recreation and tourism. This is consistent with the vision for TNR and this use will be mainly in the special purpose reserve where the wildlife enclosures, education and visitor facilities, and other infrastructure are located and easily accessible.

Any proposed development of recreation and tourism facilities or activities within TNR will be carried out with a sensitivity to the environmental attributes of the area. Additional facilities for TNR will be thoroughly researched and assessed. This is essential in order to 'protect the product', i.e. to protect TNR's values and the reasons for visiting it.

The Public Works Implementation Plan outlines developments proposed at TNR. These include improvements to the ease of use of the wildlife enclosure area by establishing a primary and secondary trail system, complemented by upgraded signage, interpretation and visitor brochures. At the same time, the number of principal exhibits will be increased.

Proposals to provide a new visitor centre at the front entrance to the Reserve, composting toilets at the kangaroo area car park and a upgraded education centre will provide other complementary facilities consistent with visitor expectations.

**Recreation opportunities and facilities must:**

- **Complement the natural setting of the area and existing recreation opportunities;**
- **Ensure minimal risk to visitor safety; and**
- **Avoid or minimise negative environmental impacts on the existing natural and cultural values of TNR.**

***Scenic Drive***

The nine kilometre sealed Ring Road takes visitors around a scenic drive of the valley floor and along the shoulders of the valley. It circles the majority of the special purpose reserve. Visitors can observe the change in vegetation, see a variety of bird life and free-ranging. A lookout provides a 360° vista of TNR. It is a good vantage point for viewing the valley, animal enclosures and the steep, forested slopes and surrounding ranges. Car parks and picnic tables are strategically placed for those who wish to stop and absorb the peace and tranquillity surrounded by natural bush. The road passes the wildlife enclosures and links back to the main entrance. Expansion of the public access road network is not envisaged.

***Nature Trails and Walks***

In addition to the paths provided through the wildlife enclosures, TNR has a system of nature and summit/ridgeline walks. Trail maintenance and upgrading is carried out on a priority basis. These trails and walks vary in duration, difficulty and purpose. Each walk is well sign-posted and indicates the degree of difficulty and the time needed for the return walk. Each walk starts at the boundary of the special purpose reserve and national park zone where car parking facilities are provided. Maps, brochures and interpretation materials relating to the walks are available from the VIC.

Some trails are purpose built trails, others are multi-use. While some management trails and trails are used for walking and cycling, their primary purpose is for management use and they will be



maintained for that purpose. Cycling, including mountain bikes, are only permitted on management and fire trails and not on single tracks or walking trails.

#### 7.2.1 Management actions - access and facilities

- a. Continue to maintain and upgrade existing visitor facilities as required within the scope of the management plan.
- b. Upgrade permanent traffic counters at strategic locations within TNR to monitor vehicle numbers and traffic flows, as resources permit.
- c. Continue to monitor visitor impact on TNR and identify management strategies to prevent adverse impacts on the recreational facilities and environment.
- d. Continue to integrate pamphlets and maps with improved signage to enhance the visitor experience.
- e. Continue to assist in the preparation of the Public Works Implementation Plan and follow-up actions.
- f. Develop and maintain a clear hierarchy of management trails within and between the wildlife enclosures.
- g. Investigate an internal system for moving people.

### 7.3 RECREATION

TNR provides a gradation of recreation experiences from the relative comfort of a family barbecue in a highly managed setting through to an adventure experience where a high level of competence in outdoor and navigational skills is required.

The experiences available at TNR may be undertaken on an independent basis, or visitors may take advantage of the Ranger-guided activities that are available. Ranger-guided activities are educative and informative and provide many visitors with the confidence to experience some of the outdoor challenges TNR has to offer.

Camping and fishing are inappropriate activities for this reserve and are prohibited. Dogs, cats, other pets are not permitted within TNR except for guide dogs and hearing dogs. Firearms are not permitted.

Some activities not consistent with current management objectives include horse riding, car rallies, off-road 4WD activities and trail bike riding. These activities will not be permitted in the reserve.

Management policy limits bicycle riding to sealed roads and specified fire trails. Rock climbing is permitted at Gibraltar Rocks but this is currently under review. Where permitted activities have the potential for adverse environmental impact or present a risk to visitor safety, it is important that Environment ACT guidelines and policies be followed. Activities will be monitored and consideration will be given to moving or prohibiting activities where levels of impact or risk are unacceptable.

Special events may be accommodated within TNR where the environmental impact of such events is not significant, e.g. cross-country running, rock climbing and orienteering, low key conventions or theatre productions. Permission will be required from the Reserve Manager and may be subject to conditions. Permission for such activities will be based on strict assessment of the potential impact on the values of TNR. Organisers of special events will be required to have public liability insurance, personal injury cover, and will be responsible for repairing any damage caused within TNR.

Access to TNR for special events outside opening hours will be at the discretion of the Manager and users may be required to meet any additional staffing costs.

### 7.3.1 Management actions - recreation

- a. Assist in developing criteria for assessing applications for special events.**
- b. Continue to conduct and develop the program of Ranger-guided activities.**
- c. Monitor the environmental and social impact of permitted activities and as necessary review the location and provision for such activities.**

## 7.4 PUBLIC SAFETY

TNR is generally a safe place to visit. However, accidents and incidents will still occur in natural settings where the environment is not modified specifically to reduce natural hazards. Environment ACT aims to minimise hazards through appropriate management, maintenance of areas and facilities and community education. Hazards can be minimised by visitors acting responsibly and taking appropriate care.

TNR plays its role in visitor safety by providing safety signs and information to visitors. Management also restricts access to the reserve or parts of the reserve when a public safety risk may arise (e.g. on days of high fire danger). Potential safety risks are minimised through maintenance and monitoring of visitor facilities. All hazards or potential hazards will be removed as soon as possible after identification.

**TNR staff will be trained in First Aid and First Aid equipment will be carried in vehicles and will be available at the VIC.**

For incidents that may occur in the national park zone, there is a need for TNR staff, the search and rescue staff of the Australian Federal Police (AFP) and the Emergency Services Bureau (ESB) to have an understanding of appropriate methods for conducting operations. TNR staff will liaise with the AFP and ESB, and, as appropriate, conduct joint exercises to this end.

The Australian Federal Police are in charge of search and rescue exercises. The most senior TNR staff member on site will liaise with the AFP and ESB officers and will assist in the delegation of tasks to other TNR staff. An emergency response strategy will be developed that will list all the emergency contacts and relevant authorities, and will display the course of action to be taken in the event of an emergency situation at TNR.

#### 7.4.1 Management actions - public safety

- a. Continue to assess and monitor visitor facilities to minimise and eliminate potential safety risks.
- b. Restrict access to areas that may pose a risk to visitor safety by erecting any necessary barriers and warning devices around work sites or closing parts of the reserve where there is a possible safety risk e.g. on days of high fire risk.
- c. Develop an emergency response strategy for TNR to include appropriate contacts, search procedures, emergency vehicle access and first aid procedures.
- d. Train all staff in First Aid.
- e. Continue to advise/inform visitors on aspects of safety in TNR.

### 7.5 LAW ENFORCEMENT

#### 7.5.1 Background

As public land under the Land Act, management of TNR is supported through the *Nature Conservation Act 1980* (NCA 1980) (See Section 2.1.1.).

Some provisions of the NCA 1980, such as restrictions on activities, apply specifically to the area of national park. Native plants and animals are protected by the NCA 1980 throughout TNR. Visitor behaviour in the special purpose reserve is regulated by other Acts such as the *Litter Act 1977*, *Trespass on Territory Land Act 1932* and the *Dog Control Act 1975*.

Wherever possible a public relations and education approach is adopted to highlight inappropriate behaviour and explain why it is not acceptable. Serious matters are referred to the Environment ACT's law enforcement Business Unit for investigation and prosecution action if necessary.

The NCA 1980 provides for the erection of signs to direct and guide visitor behaviour. It is an offence to contravene a direction or requirement of such signs. All signs in TNR are erected with the authority of the Conservator of Flora and Fauna.

Inappropriate behaviour within TNR includes camping, fishing, speeding, interference with wildlife, lighting fires other than in designated barbecue areas, bringing domestic animals into the reserve, taking native plants, stealing from motor vehicles, disobeying signs and damaging property and facilities. TNR is fortunate in that the majority of infringements committed by visitors are of a minor nature. They are often dealt with by Rangers who are trained in law enforcement and are authorised under relevant legislation.

### 7.5.2 Role of Rangers

All permanent Rangers are conservation officers appointed under the NCA 1980. The role of Rangers and other Environment ACT employees is to encourage support and understanding within the community for management objectives. Rangers also promote an understanding of appropriate behaviour in reserved areas.

Staff at TNR will continue to liaise with the Compliance and Quarantine Services business unit over legal matters and will become involved in relevant training activities conducted by the Compliance and Quarantine Services or other appropriate organisations.

In support of the conservation objectives of the NCA 1980, breaches in TNR will be investigated and may result in warnings, prosecution action or the issue of on-the-spot fines.

### 7.5.3 Management actions - law enforcement

- a. Continue to liaise with the Compliance and Quarantine Services business unit for law enforcement support and training.**
- b. Assess the adequacy of signs in relation to legal requirements to ensure that visitors are aware of their responsibilities and constraints on their use of areas.**
- c. Enforce relevant legislation using an educative approach where possible.**

## 7.6 DEVELOPMENT IN THE RESERVE

### 7.6.1 Background

Increased interest in TNR's potential for nature based tourism means it is important that development within the reserve be strategically planned, monitored and managed. This will ensure minimal impact on the natural and cultural heritage values of the reserve.

There has been very little development and construction within TNR outside the special purpose reserve. This is largely in keeping with the 1968 proposed land use zoning (Margules and Associates 1968) and in response to the provisions of the Land Act and TP. Development to date, especially in the special purpose reserve, has taken place slowly.

### 7.6.2 Current developments

With the exception of the old works depot, all buildings blend well with the bush setting and complement the historical buildings in the reserve. The design of animal enclosure has ensured discretion and the toilet facilities are strategically placed and unobtrusive. The most recent constructions, including the Works Depot, require some screen planting to lessen the visual impact when viewed from the lookout on the Scenic Drive.

Walking trails have been designed to have minimum effect on the environment. Fire trails have been installed for fire control and safety reasons. All fire trails double as walking trails, reducing the effect of walkers on vegetation and soils.

The only facilities located outside the special purpose reserve are Nil Desperandum homestead and two radio transmitters, at Pierce Trig Point and Camel Back Ridge.



### 7.6.3 Future development

This plan of management and the TNR Public Works Implementation Plan will provide direction and guidelines for deciding on future redevelopment of, and new development in, the special purpose reserve. The Public Works Implementation Plan is based on environmental considerations, including assessments for potential adverse environmental impacts. All development proposals are subject to the public scrutiny provisions of the Land Act.

#### *Performance criteria*

Careful consideration will be given to the need for, and the siting of new amenities or service buildings. Architectural styles must be sympathetic to the bushland setting and complement existing facilities. People movement and distances between attractions is also a major consideration for siting new or additional facilities.

Design and location of pathways and lookouts should minimise the visual impact of major intrusions. Plantings may be carried out to provide screening.

Location of future animal displays for species identified in the animal collection plan is flexible. Locations will depend largely on the availability of suitable habitat type within the special purpose reserve.

The hierarchical path system for pedestrian circulation through the animal enclosures will be maintained and enhanced. Where appropriate, engineering advice must be sought to avoid damage to facilities by flood.

The Land Act provides for some public scrutiny of projects or actions which may affect the natural, social, built or economic environments. Not all proposed developments will trigger the requirement for an environmental impact assessment under the Land Act. Such developments may include minor works proposed by Environment ACT or other agencies such as ACT Electricity and Water Corporation (ACTEW), or minor extensions to existing buildings. Reserve management will ensure any such works are undertaken in accord with prudent management and the principles of this Management Plan.

**All future developments in TNR must be consistent with the TP and this Management Plan and are to be based on the following principles:**

- 1. Proposed developments will be sympathetic and/or enhance the natural and cultural heritage values of TNR.**
- 2. Proposed developments which affect the natural and cultural heritage values of TNR will be subject to environment impact assessment under the Land Act.**
- 3. The purpose of the proposed facility must meet one or more of TNR's objectives for conservation, education, research or related nature based tourism.**
- 4. Facilities will be carefully sited and integrated into the existing landscape and vegetation of TNR.**
- 5. The impact of all known development proposals should be considered when assessing proposals.**

### ***Developments***

Within the special purpose reserve a number of public works developments are proposed. The detail for these developments is contained in the TNR Public Works Implementation Plan. In the short term these proposed developments include:

- **Main entry:** A new entrance to TNR will be constructed along with a staffed entry booth. This will make the entranceway more obvious from Tidbinbilla and Paddys River Roads and enable the collection of an access charge (see 7.8.2).
- **Barbecue area:** Vehicle access and parking in the barbecue areas will be improved through a program of expansion and improvement.
- **Visitor areas:** Parking facilities will be improved, especially at the VIC to provide additional parking for buses and about thirty five cars.
- **A temporary food outlet** will be located near the current VIC. This facility will be temporary because it is anticipated that the main focus of commercial facilities eventually will be co-located at the entrance to TNR.
- **Wetlands boardwalk and viewing platform:** Designed to enhance the viewing experience of the waterbirds and ponds. A viewing area and static display will be constructed in an area currently closed to the public.
- **Displays:** An elevated boardwalk is proposed for the Brush-tailed Rock-wallaby enclosure. This walk will take visitors to a viewing platform above the enclosure. The enclosure area will become a more integrated display facility by constructing a hierarchy of walking trails incorporating a primary loop with interest points at regular intervals.

In the longer term, the following developments, elaborated in the development strategy, are proposed for the special purpose reserve:

- **Main entry:** The VIC will be relocated to the main entry, providing a focal point for visitors. The relocation of this facility will provide greater access to information and displays by visitors and potential visitors.
- **Displays:** Additional wildlife displays will be incorporated as resources allow. These may include a walk-through aviary and other mammal, reptile, amphibian and invertebrate exhibits.
- **Visitor zone:** When the VIC is relocated to the main entry, the existing VIC building will be refurbished to provide other facilities, e.g. possibly for educational uses and conferences. This will be considered in a review of the educational role of TNR and the desirability of further development for education.

Other opportunities, eg. Rock Valley Homestead, will be investigated for enhanced interpretation and education about the local region.

### ***Private development***

There has been some indication from the private sector of interest in the development of TNR including for accommodation for tourists. Any such development will be considered only for the special purpose reserve and will require an assessment of environmental impact.

### ***Development in the national park***

Some future development may be required in the national park. This may include the construction of additional walking trails and fire trails or the installation of facilities like transmitters. Only low impact activities and facilities that are considered appropriate will be identified for the national park.

Developments outside the special purpose reserve must comply with the following criteria:

- All developments will be subject to assessment for potential adverse environmental impact at the concept and planning stage;
- Trails and facilities will be carefully sited and integrated into the existing landscape and vegetation of TNR and should avoid undisturbed communities;
- All proposed developments must be assessed from an engineering perspective given the steep nature of the topography in this area.
- Development must not impact on the skyline of the national park zone.

#### **7.6.4 Management actions - development in the reserve**

- a. Continue to require an impact assessment process to identify potential environmental risk for all minor and major developments in TNR.**
- b. Continue to identify low impact recreational activities and facilities appropriate for the national park.**
- c. Continue to review current access and identify future requirements for fire trails and walking trails, including the hierarchy of paths in the enclosure area.**
- d. Minimise the impact of developments within TNR on the existing landscape and other environmental attributes through sympathetic planning, design and siting, construction and maintenance.**

### **7.7 TOURISM**

TNR's tourist potential has grown over recent years along with that of Canberra and the ACT region. Consistent with the vision for TNR, it has become the focal point for potential nature based tourism in the ACT (Capital Public Affairs Consultants *et al.* 1995, ACTPCS and Canberra Tourism 1997, Canberra Tourism Commission 1996). TNR offers tourists the opportunity to see diverse natural forests and captive Australian wildlife in near natural environments. It has impressive scenery and sites of cultural significance.

Nature based tourism includes all forms of tourism that rely on, or incorporate, a visit to natural environments. Environment ACT liaises with Canberra Tourism and the local tourism industry on marketing and promotion and provides familiarisation tours of the parks and reserves for people in the tourism industry. Canberra Tourism encourages tourists to visit TNR and features TNR in its marketing work. This has helped sustain a high tourist profile for TNR which won the ACT Tourism Awards for Environmental Tourism for 1993, 1994, 1995 and 1997.

It is accepted that TNR's tourist potential has not been fully realised. In exploring this potential, Environment ACT has a responsibility to ensure that future tourist growth is not achieved at the expense of the TNR's intrinsic natural and cultural resource values. Ecologically sustainable management of TNR is essential to its role in nature based tourism in the ACT. A deterioration in

the natural and cultural values of any nature based tourism destination will lead to a decrease in tourism. Base line data on environmental quality is needed for areas of TNR that will experience increased visitation as a result of tourist growth. This data will be used to monitor and evaluate the effects of increased tourism.

The ACT Government has released an ACT Tourism Development Strategy (Canberra Tourism Commission 1996) and Environment ACT has developed an ACT nature based tourism strategy (ACTPCS and Canberra Tourism 1997). Future development of TNR will be evaluated in terms of the objectives established in these strategies and other Government policies including the Land Act and NCA 1980. Management will assess all future proposals to ensure an outcome consistent with all the objectives of TNR in addressing the issue of tourist developments in parks.

**Proposals for future tourist facilities/opportunities will be assessed against the following criteria:**

- **Consistency with overall management objectives for TNR and ecologically sustainable development principles;**
- **Ability to complement existing facilities/opportunities;**
- **Potential for environmental impact; and**
- **Economic viability and value to the ACT community, including tourism value.**

#### **7.7.1 Management actions - tourism**

- a. Identify and assess future potential tourist opportunities and developments.**
- b. Manage tourist facilities/opportunities to minimise environmental damage and conflict with existing facilities.**
- c. Continue to maintain TNR's significant reputation as a quality tourist destination by interpreting the biodiversity and cultural heritage sites.**
- d. Establish baseline data for monitoring tourist effects on TNR and implement a monitoring program.**

### **7.8 FUNDING AND REVENUE RAISING**

#### **7.8.1 Background**

Funding for management of TNR is provided from Environment ACT's annual budget and entry fees. Grants and other appropriate funds are actively sought for special projects. The facilities offered to visitors show there is scope for TNR to develop its revenue raising potential. The success of revenue raising proposals however, will depend heavily on the ability to retain the revenue generated for the reserve system, given that such initiatives are expensive in terms of agency resources.

Possible sources of revenue for TNR have been identified in a number of marketing research exercises. Payment for some Ranger-guided walks already exists (see below). Revenue generated from retail sales at TNR is currently being returned to TNR to assist with management activities.



### 7.8.2 Charges

Access charges, per car and annual pass, commenced on 1 July 1997. Other charges, to be levied on a cost recovery basis, will be considered for future implementation. Park charges for national parks and reserves generally have received public support, especially when levied for the purpose of environmental protection. All revenue raised in TNR will be allocated to park management and species conservation activities conducted by Environment ACT.

TNR traditionally had about 150,000 visitors per year (many were repeat local visitors) and imposing access charges could decrease visitor numbers in the short term. The full extent of any fall in visitor numbers resulting from the imposition of access fees will not be accurately determined until one full year of operation with the fees in place has elapsed. It is current government policy that money raised from entry fees at TNR be reinvested in the Reserve. This will provide strong incentives for TNR to explore revenue raising options where appropriate.

### 7.8.3 Retail sales

Environment ACT has a limited range of quality items available for sale through visitor information centres and Government shopfronts. The sale of these products raises revenue, raises the profile of Environment ACT and the reserve areas it manages, and enhances the visitor experience. Joint projects with sponsors, other agencies, community groups or individuals are a possible way to fund production and promote goods relevant to TNR.

### 7.8.4 Sponsorship

Sponsorship from the business community can provide benefits to reserve management and the sponsor. Funds supplement operational and project budgets and also potentially provide tax deductibility and promotional opportunities for the sponsor.

The wildlife displays at TNR have great potential for attracting sponsorships. Sponsorship of display animals is already an established practice in Australian zoos and wildlife parks. Other opportunities with potential to attract sponsorship at TNR include research, recreation facilities generally, education facilities and interpretation programs.

**When seeking sponsorship for initiatives within TNR, the management principles and objectives of the reserve will not be compromised and sponsorship from businesses where a conflict of ethics may arise will be avoided. Sponsorship must not require changes to management practices or conflict with Environment ACT or Government policies, programs or objectives and acknowledgements must be discrete.**

An Environment ACT sponsorship policy and strategy is being developed and will identify:

- Sponsorship opportunities;
- Potential local and corporate sponsors;
- Types of sponsorship to be sought (i.e. funds or materials e.g. animal feed or fencing);
- Guidelines for assessment of potential sponsors;
- The proposed return for sponsorship (i.e. signs on enclosures, acknowledgements on pamphlets, or recognition in reserve promotional material); and
- Appropriate contractual arrangements.

Initial work shows there is considerable potential for sponsorship. However, it is proposed to provide for the gradual introduction of sponsorship initiatives including 'one off' and continuing commitments.

#### **7.8.5 Ranger-guided walks and activities**

Currently, charges are made for selected Ranger-guided walks and activities. This is consistent with policies being implemented across the ACT parks system. The effect on participation rates is being monitored. The structure of charges, and the methods used to educate about, promote and collect them, will influence acceptance by the community. At TNR, charges will continue for value-added Ranger services but there will be no charge for the current program of scheduled daytime activities following the introduction of an access charge to the reserve.

#### **7.8.6 Management actions - funding and revenue raising**

- a. Use revenue raised to maintain and expand the level of service provided within TNR.**
- b. Assist in developing a sponsorship strategy for TNR in relation to facilities, activities and promotional material.**
- c. Continue to seek funding over and above budget allocations through grant submissions, charges, sponsorship and retail sales.**
- d. Monitor visitor numbers, satisfaction and requirements to maximise the standard of 'customer service'.**
- e. Continue to promote the reserve as a quality natural attraction.**

## **8. COMMUNITY AWARENESS**

### **SPECIFIC MANAGEMENT OBJECTIVES**

- **Enhance the local, national and international image of TNR as a high quality conservation and educational facility, to introduce interpretative themes and to increase awareness of the range of tourism products available.**
- **Encourage the use of TNR for education thereby increasing the effectiveness of the wildlife and environmental issues components of formal education programs run in the ACT and region.**
- **Provide individuals and communities with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the natural and cultural environment and appropriate uses and management of TNR.**
- **Focus on local environmental issues to ensure a level of interest or value to local people and link local environmental issues to the broader national and global situation.**
- **Increase visitors' appreciation and understanding of Australia's wildlife and ecological communities including threats to local habitats and issues of current environmental concern.**
- **Contribute to the conservation of wildlife and endangered species through information, interpretation and education.**
- **Foster co-operative management of common boundaries with neighbours.**
- **Encourage and support community volunteer participation in the management of TNR.**
- **Explain and support the imposition of any user charges.**
- **Promote strategies to increase visitor numbers and raise revenue as opportunities for future development.**

### **8.1 ENVIRONMENTAL EDUCATION AND INTERPRETATION**

#### **8.1.1 Background**

Interpretation has long been recognised as an important management tool. It supports management objectives by modifying visitor behaviour, confining visitor impact to designated areas and developing values in support of conservation that will lead to personal action. Interpretation also fulfils the important functions of orientation, promotion and eco-tourism. The latter function is becoming increasingly important particularly in the ACT where tourism is a major industry. Nature based tourism is extremely competitive in the ACT. Reserves such as Tidbinbilla not only have to compete with local attractions such as Parliament House, the War Memorial and the National Gallery, but also with national parks and tourist operators in nearby NSW.

Interpretation is essentially experiential learning where participants are actively engaged in the environment. The education then takes place within the individual in a cognitive and emotional sense as they respond to their experience in the environment. Interpretation may take on a more formal approach to learning outcomes when it is linked to school based curricula and activities.

A range of interpretative activities take place at Tidbinbilla. Ranger guided walks, the VIC, self-guided walks, activities with school groups, publications and special events are primary interpretative techniques.

### 8.1.2 Tidbinbilla Nature Reserve Interpretation Strategy

The Tidbinbilla interpretation strategy marks a change in direction by focusing the way resources are applied to interpretation. The core visitor experience has been defined as a visit to the visitor centre then a close encounter with wildlife within one or more of the wildlife enclosures. Visitors will be encouraged to go on a ranger guided walk or a self guided walk.

Rather than trying to cater for everyone who comes to Tidbinbilla the strategy defines the audience or target markets that Parks and Conservation wish to attract to the reserve.

Summary of target market segments.

Target Market	Description	Visitation
Nature made easy	Positive attitudes to national parks where they can get together with family and friends. Require a high level of facilities such as kiosks.	15-20%
Escape to Nature	Whilst not overly keen on highly physical or adventurous activities they show a moderate level of interest in a wide variety of national park activities.	15-20%
Out and about seniors	Like the idea of having national park activities organised for them. Have positive attitudes towards national parks.	10-15%
Students in Years 5-8	Students involved in curriculum based activities that are able to link Tidbinbilla's messages with their studies.	5-10%

### Objectives for Interpretation

Objectives give a clear understanding of what interpretation should achieve as well as provide a measure to which evaluation can be applied. The following have been identified as interpretation objectives for TNR.

1. Communicating or demonstrating one or more of the messages of the reserve.
2. Satisfying the majority of target audience engaged in each interpretative experience.
3. Value adding to the visitor experience by heightening the senses, stimulating the mind and creating an emotional response.
4. Influencing visitor behaviour to minimise visitor impact to the environment and other people, and maximise enjoyment.
5. Forging a trusting relationship between staff and visitors that is built on understanding and positive interactions.
6. Continually reviewing and improving interpretation programs to achieve these objectives in an efficient manner.

The evaluation section of the interpretation strategy outlines how each of these objectives can be evaluated through performance indicators.

### **Themes, messages and concepts**

Messages, themes and concepts have been clearly defined in the strategy so that staff and interpretative materials will consistently deliver strong messages to visitors. The themes for TNR are:

- relationships between wildlife and their habitat
- cultural perspectives of local Aboriginal communities
- cultural perspectives of local pioneers and
- relationships between wildlife and people.

### **Interpretation Training**

Interpretation training programs will be held regularly to address communication, customer service, understanding of interpretation techniques and ways of gaining feedback from visitors. Training for tour operators will also play an important role in ensuring that they deliver messages that are consistent with the park managers and that interpretation delivery is maintained at a high standard throughout the reserve.

#### **8.1.3 Management actions - community awareness and participation**

- a. Continue to promote broad public awareness as an essential part of education to strengthen attitudes, conservation values and actions which are compatible with ecologically sustainable development.**
- b. Continue to implement a visitor information, interpretation and education program for TNR within the regional context.**
- c. Continue to provide high quality interpretative activity programs for all client groups.**
- d. Continue to liaise with ACT Government education authorities and other education professionals in the development of interpretation programs and education kits for Rangers which link with formal education programs.**
- e. Participate in the development of an environmental education package for teachers.**
- f. Continue to encourage environmental education and interpretation training for Rangers.**

## **8.2 NEIGHBOURS, INTEREST GROUPS AND OTHER USER GROUPS**

### **8.2.1 Background**

Environment ACT encourages community participation in activities related to the management of TNR, most notably through its support of the Park Care program. It also encourages neighbours and other users of its reserves, such as ACTEW to participate in co-operative management programs. There are currently no formal agreements in place with other users although they are provided for under the NCA 1980.

### **8.2.2 Neighbours**

TNR shares its western boundary with Namadgi National Park (NNP) along the Tidbinbilla Range. Its northern border joins pine forests managed by ACT Forests. The north eastern boundary is shared with Birrigai Outdoor Education Centre and Tidbinbilla Station.

Neighbours and TNR staff liaise regularly and work together on a co-operative basis for the efficient management of the area. Similar management strategies are adopted by NNP and TNR. Staff from both parks work together to protect resources along their common border. Block 9, Block 16 (Kangaroo Flats) and the contiguous area shown as area A in Figure 2 have been identified previously as being in TNR but they are managed now by NNP.

ACT Forests regularly participate in TNR's annual pig control program, have their radio repeater station on Camel Back Ridge and have reciprocal access arrangements with the reserve.

The Birrigai Outdoor Education Centre occupies 180 hectares adjacent to TNR and is currently managed by the Department of Education. TNR staff liaise regularly with Birrigai management about issues such as weed control, although there are no formal arrangements between the two. Both work co-operatively towards consistent land management practices for the region and there is support for Birrigai's development of a five year Land Management Plan. Users of the outdoor education centre regularly use reserve facilities and TNR staff will continue to work on a co-operative basis with Birrigai management.

TNR staff liaise regularly with Tidbinbilla Station management who are advised of activities that may have some impact on the property.

It is important to maintain liaison and interaction with neighbours, including the Paddys River Catchment Landcare Group, as they share many common issues such as pest plants and feral animals. The involvement of neighbours in relevant issues will ensure effective assistance in preventing and solving problems that occur across boundaries. To ensure pest control programs are complementary, Environment ACT will pursue management agreements with neighbours.

### **8.2.3 Interest and other user groups**

Environment ACT co-ordinates the volunteer Park Care program which aims to develop, co-ordinate, promote and evaluate activities to revegetate and rehabilitate areas managed by Environment ACT. This program enables the community to be involved in the management of TNR.

The TNR Park Care group is known as the Friends of Tidbinbilla. This group was established late in 1992 and is a group of registered volunteers from the Canberra region who are regular visitors and wish to contribute to the management of TNR. Staff will assist the 'Friends' group who carry out an agreed program of voluntary work including bird counts, Water Watch programs, and trail and animal enclosure maintenance.

Regular training sessions are held for members to ensure safe work practices, in line with OH&S guidelines and a quarterly newsletter is produced providing information about current and future activities. The assistance of volunteers is sometimes sought for revegetation programs.

The Tidbinbilla Pioneers Association is made up of descendants of the families who lived in the Tidbinbilla Valley in the late 1800s and who still feel an attachment to the area. The Association provides invaluable information about the history of the area before TNR was established and still plays an active role in the reserve.

Local schools regularly use TNR. They provide some assistance to staff by trialing new educational programs and participating in promotional activities. Other educational institutions from the ACT and interstate include TNR on their annual excursion programs.



Local Scouting groups use TNR for activities as part of the Queen's Medal program. They occasionally participate in restoration and maintenance programs at Nil Desperandum and in cleaning captive wildlife feed areas.

ACTEW has access to TNR when required and vegetation under power lines is maintained by reserve staff.

TNR is a member of the Paddys River Landcare Catchment Group. As part of the Paddys River Catchment, TNR management co-ordinates and co-operates in pest plant and animal control programs and water quality programs with other land managers in the catchment.

#### **8.2.4 Management actions - neighbours, interest groups and other user groups**

- a. Continue to liaise with neighbours and interest groups such as the Tidbinbilla Pioneers Association to ensure consistent and co-operative management of the Tidbinbilla area.**
- b. Continue to co-operate with neighbours in agreed pest control programs.**
- c. Continue to provide and encourage support and training for the Friends of Tidbinbilla and other groups and contribute to the development of an annual activities program for the groups.**
- d. Formalise arrangements with the Department of Education for the co-operative management of pest plants and animals (particularly weeds and rabbits) between Birrigai and TNR.**
- e. Participate in developing management agreements with neighbours and other reserve users.**

### **8.3 PROMOTION**

#### **8.3.1 Background**

TNR has been identified as a focal point for the promotion of nature based tourism in the ACT and for the development of facilities consistent with its role as a centre for nature based tourism (Capital Public Affairs Consultants *et al.* 1995, ACTPCS and Canberra Tourism 1996, Canberra Tourism Commission 1996). It caters for a wide range of people including family groups, school groups, VIPs, international tourists and local visitors, and the visitor book comments and letters of appreciation are testimony to the quality of visitor experience offered at the reserve.

#### **8.3.2 Current status**

TNR already enjoys a significant reputation as a quality tourist destination. It is strongly promoted through Canberra Tourism and the ACT Government Shopfronts. It is also featured in a range of national and international tourist data bases with travel agencies and Youth Hostels. Articles and advertisements relating to TNR and its activities regularly appear in the local media. A full colour glossy brochure has been produced by Environment ACT to promote TNR and is available through a large number of outlets including tourist information centres.

Promotion of TNR at the reserve is achieved through:

- The production of items with the TNR emblem for sale from the retail outlet at the VIC;

- Participation in the Australian Science Festival Week;
- Establishment of and support for the Friends of Tidbinbilla;
- Participation in on site television productions for travel and entertainment shows; and
- Actively seeking media coverage of items of interest at TNR, including the arrival of new species.

TNR and its attractions have also been promoted to teachers, tour operators and the Canberra community through the reserve's regular program of activities and Ranger interviews on local media about guided walks.

TNR is located on Tourist Drive 5 and participates in programs aimed to promote the attractions of Tourist Drive 5 generally. TNR also participates in promoting specific activities on the Drive, such as co-operating with Tidbinbilla Tracking Station to promote science-based school holiday programs.

The success of current promotion methods for TNR can be measured by visitor statistics. Over the past two decades TNR has averaged over 10,000 visitors per month. A survey conducted by the University of Canberra indicated that 68 per cent of respondents were return visitors (Groeger *et al.* Unpublished).

### **8.3.3 Future promotion**

It is important that a planned strategic approach be developed for future promotion of TNR. All future promotions must reflect TNR's role as a conservation, education and research facility that is a high quality tourist destination, and the method of promotion must be consistent with conservation principles.

### **8.3.4 Management actions - promotion**

- a. Continue to evaluate the current promotion activities for TNR.**
- b. Prepare a promotion strategy for TNR.**
- c. Continue to promote activities and tourism products.**
- d. Continue to promote TNR through the use of local media events .**
- e. Participate in Environment ACT and Tourist Drive 5 promotional activities.**



## 9. MANAGEMENT OF AUTHORISED USES

### SPECIFIC MANAGEMENT OBJECTIVES

- Improve the knowledge and understanding of TNR's physical, biological and cultural resources by developing a sound information base and monitoring system.
- Provide research opportunities to contribute to the conservation and knowledge of rare and threatened species.
- Facilitate communication between researchers and managers to ensure the incorporation of research findings into TNR's management programs.
- Conduct and enable opportunities for the provision of appropriate services to visitors via concessions or commercial activities within TNR and ensure that they complement an appreciation of the natural environment.

### 9.1 RESEARCH

#### 9.1.1 Background

The results of sound, scientifically based research are necessary for the ongoing management of reserved areas and TNR provides excellent facilities for research into native flora and fauna. However, it is the role of Environment ACT to ensure that research activities do not unnecessarily affect identified values or conflict with other uses of reserves. Environment ACT has established a system for approving, co-ordinating and monitoring research conducted in reserved areas.

The special purpose reserve in particular, is ideal for research with the availability of contained terrestrial and aquatic environments in a semi-natural setting with a servicing infrastructure. Study of enclosure species has contributed greatly to husbandry and species management strategies and many research activities have complemented those undertaken at other facilities, e.g. the Tammar Wallaby (*Macropus eugenii*) population was introduced to provide a back-up population for the ANU Research School of Biological Sciences for its study of the species.

TNR was the first area in the world to successfully breed Australia's rarest duck - the Freckled Duck (*Stictonetta naevosa*). A breeding colony of the locally extinct Brush-tailed Rock-wallabies (*Petrogale penicillata*) has also been established and reintroduction of the species into the ACT is being considered.

Extensive research of TNR's vegetation has been carried out. A checklist has been compiled of vascular plant species within the reserve and a vegetation map has been published (Ingwersen 1985). Research has been conducted into grasstree (*Xanthorrhoea sp.*) biology (Gill and Ingwersen 1976) and the apparent invasion of its habitat by burjan.

#### 9.1.2 Research projects

Environment ACT has a role in conservation of threatened species and biodiversity generally. Conservation of populations of local species provides educational opportunities and a resource for

conservation and research agencies. In line with these roles, the Conservator will consider approving research proposals that are assessed as meeting management objectives for TNR.

All proposed research projects should demonstrate clear objectives and a sound scientific structure and be supervised by qualified personnel associated with an institution or expert group. Details of all research projects including copies of progress and final reports are required to be available to the Reserve Manager.

Site based research is carried out by Environment ACT personnel and researchers from other institutions such as the Australian National University, CSIRO and Cooperative Research Centres. Vertebrate research may be centred on the wildlife enclosures, the wildlife support area or free ranging populations. Vegetation research largely is conducted outside the wildlife enclosure area.

**TNR will continue to encourage and support research projects that cause minimal interruption to animal displays and visitor enjoyment.**

### 9.1.3 Monitoring

Monitoring builds on information available to managers, identifies environmental changes that occur and indicates areas that require management action. Monitoring enables management actions can be evaluated and resources to be directed to where they are needed most. Some survey and monitoring work is carried out cooperatively with, and on behalf of, TNR by the Environment ACT's Wildlife Research and Monitoring unit.

On site monitoring is carried out regularly by staff in relation to animal husbandry and feral animal control.

The Friends of Tidbinbilla participate in water quality monitoring through the ACT Water Watch Program and are involved in bird counts in the wetlands area.

### 9.1.4 Relevant controls

The NCA 1980 specifies that native animals cannot be taken or killed, and that native plants cannot be taken without a licence. Licences are issued by the Compliance and Quarantine Service business unit of Environment ACT under delegation from the Conservator. Where a licence is granted for an activity, written records must be submitted to Environment ACT on completion of the activity.

Under the *Animal Welfare Act 1992*, Animal Ethics Committee approval is required for research activities involving animals.

### 9.1.5 Sociological research

Sociological research through visitor surveys is carried out regularly to ascertain visitor use, expectations, perceptions and preferences. This is necessary to determine the effectiveness and appropriateness of TNR's programs, site improvements and other management initiatives. In 1992 students from the University of Canberra identified the self administered survey method as the most efficient survey technique for use by volunteers in collecting visitor information. This method may be of some future use given the drain visitor surveys place on TNR's resources.

Visitor surveys are an appropriate means for seeking visitor response to proposed management initiatives and results of recent surveys by Groeger *et al.* (Unpublished) and Bull (1994) will be taken into consideration in preparing the TNR Public Works Implementation Plan for TNR.

#### 9.1.6 Management actions - research

- a. Continue to regulate research projects through a licence system to ensure projects are appropriate.
- b. Continue to support and contribute to scientific research relating to Australian flora and fauna.
- c. Enhance TNR's contribution to conservation through the maintenance of captive populations of local wildlife for co-operative research projects.
- d. Conduct baseline surveys and monitor flora and fauna to assess changes and the impact of management actions.
- e. Conduct visitor surveys when resourcing allows.

### 9.2 PARK CONCESSIONS AND COMMERCIAL ACTIVITIES

#### 9.2.1 Concessions

A park concession is a right granted by way of a lease, licence or permit for the occupation or use of part of a reserve to provide appropriate facilities or services for visitors' use and enjoyment. This right is usually subject to payment of a fee or provision of services instead of fees, e.g. restoration or rehabilitation work (CONCOM 1985). This definition limits the applicability of 'concession' to facilities and services for visitors and excludes other 'exploitative' uses for which rights may be granted.

Proposed concessions must meet all statutory and industrial requirements in relation to operation e.g. OH&S policies and guidelines. Additionally, they must be consistent with the objectives of this management plan and be capable of meeting Environment ACT requirements and be ecologically sustainable, economically viable and reliable.

A concession licence, subject to conditions and fees, will be required for operators charging visitor's fees. Concessions operating within TNR must comply with existing policies and will be strictly monitored. Concessions focusing on education and promoting greater public awareness and understanding of environmental conservation will be viewed favourably and a reduction or waiving of licence fees may be considered.

#### 9.2.2 Related activities

Some commercial activities in TNR do not provide visitor services and are not concessionable, such as commercial filming and photography. Other activities such as cross country running events and other recreational and educational activities undertaken by groups are also not concessionable.

Approval is required from the Conservator prior to these activities. Conditions, which may include the payment of a fee, will apply to minimise disturbance to the environment and visitor use. Such activities will only be considered when they are non-destructive and/or when TNR is portrayed in a manner consistent with all management objectives.

### 9.2.3 Relationship between concessionaires and Environment ACT

Concessionaires are a point of contact with the public and may be seen to be representing Environment ACT. For this reason, it is important that there is co-operation between the concessionaire, Environment ACT and the Reserve Manager.

To assist this co-operation, and to ensure concessions are only granted for purposes consistent with the Environment ACT's objectives, detailed criteria will be established by Environment ACT to assess applications for concessions, and a mechanism will be developed for granting concessions and other approvals. Concessionaires may be required to undertake training to familiarise themselves with TNR's objectives, facilities and programs to assist in dealing appropriately with the public.

Application and administrative fees will be charged to cover costs in assessing, licensing or permitting and monitoring concessions and related activities.

There is potential for Environment ACT to introduce commercial activities into TNR to enhance visitor use and enjoyment. Concessions may be an efficient and cost effective means of providing services. They can also be a source of supplementary revenue. However, it is important that proposed activities have minimal impact on the natural and cultural values of TNR and are compatible with existing facilities. They must also comply with legislative requirements. Such activities may include, for example, retail outlets, food outlets, tourist attractions, tours, concerts, bike hire, and natural history classes and activities. Under the NCA 1980, the Conservator's written consent is required for the supply of goods and services, or erecting related structures, e.g. a booth or sign, in reserved areas.

A variety of proposed concessions have been suggested for TNR in a number of marketing and tourism studies and workshops over recent years. Environment ACT may allow opportunities for the provision of appropriate services to visitors via concessions consistent with overall management policies. A proposed food outlet located next to the current VIC is included in the Public Works Implementation Plan.

Currently there is a retail outlet at the VIC which is managed by Environment ACT. Revenue raised is put back into TNR. Charges are being made for select Ranger-guided walks. Moneys raised by the Friends of Tidbinbilla through sanctioned 'Friends' activities support their specific projects and work parties.

Currently there is no charge for tour operators to bring tours into TNR. The Marketing Strategy and Options Plan (1995) and the TNR Public Works Implementation Plan address these issues and assists in identifying suitable commercial activities within TNR.

Development and recreational facilities will be limited to the special purpose reserve to maintain the integrity of TNR and limit impact where possible. Low impact activities, such as nature tours, may be allowed in the national park zone.

**9.2.4 Management actions - Park concessions and commercial activities**

- a. Assist in the identification of potential commercial activities suitable for TNR.**
- b. Continue to assist in developing detailed criteria for assessing concession applications.**
- c. Continue to assist in developing a system for assessing and granting permits and licences to ensure all applications are assessed against agreed criteria and perform against set conditions.**
- d. Monitor concessions and related activities to ensure they are consistent with management objectives and for likely adverse environmental or cultural impacts.**
- e. Assist in establishing a system for assessing non-concessionable activities.**
- f. Assist in establishing a training/familiarisation program for concessionaires.**

## **10. MANAGEMENT OF THE WILDLIFE ENCLOSURES**

### **SPECIFIC MANAGEMENT OBJECTIVES**

- To provide a high standard of captive animal management and provide facilities to ensure the health, welfare and security of animals.
- To display animals in a setting resembling, as close as reasonable, their natural habitat, including provision of natural shelter, food, etc.
- To provide high quality opportunities for visitors, including those with disabilities, to encounter native animals in natural surroundings.
- To participate actively in the conservation of threatened species.
- To protect the health and integrity of both captive and free-ranging populations.
- To maintain genetic integrity of the captive collection.
- To provide a service facility for the animal enclosures to meet requirements for food preparation and storage, animal quarantine and material storage.
- To provide short-term animal accommodation and facilities suitable for veterinary requirements of wildlife and for the captive breeding of selected species.

### **10.1 WILDLIFE DISPLAYS**

#### **10.1.1 Background**

In the early years of the reserve, display species were often chosen according to animal availability, national significance, public interest value and maintenance effort required. Since the late 1980s the emphasis has been on the display of regional species, selected endangered species and species of special research or educational value, such as the Brush-tailed Rock-wallaby.

The animal displays at TNR provide a very different experience from any other regional fauna displays because visitors can encounter native animals in their natural environment. The theme of TNR, 'Encounter Wildlife' promotes this experience. The objective is for visitors to gain a greater appreciation of wildlife, habitat, ecology and conservation. This is achieved by actively participating in seeking out animals within the enclosures, according to type of enclosure and the behavioural patterns of particular species. Interpretative material relating to particular species includes information to acquaint visitors with the reason for their display status.

Besides the conservation and recreational opportunities provided, the animal displays provide extensive opportunity for scientific research.

#### **10.1.2 Management of displays**

Animals are usually obtained from other wildlife parks or institutions. Animals may be obtained from the wild if other practical sources are not available (this will only occur under strict control). Breeding control methods are used to regulate animal numbers in the displays, avoiding surplus animals wherever possible.

All animal species are displayed in accordance with Animal Welfare Codes of Practice and species management plans as required under the NCA 1980. A quarantine facility is available at the wildlife support area for incoming and sick individual animals and veterinary assistance is obtained through Government and commercial sources.

Surplus animals are disposed of in one of the following ways:

- Located with another display, zoological or research institution; or
- Released within TNR or other areas as appropriate; and
- Euthanased and either disposed of or made available to institutions for study.

Hand-reared animals donated to TNR are dealt with in accordance with the policy on 'Releasing hand-reared animals in enclosures'.

Some supplementary feeding of display species is carried out as required to minimise overgrazing and browsing within the enclosures and to meet animal welfare requirements. Daily bush bird feeding by staff in the bird feeding area is done as part of a community education program to assist visitors to become aware of and appreciate the diversity of birds and to relate birds to habitats and seasonal conditions. Feeding and handling of captive animals by visitors is actively discouraged.

#### **10.1.3 Management plans**

Species management plans will be developed for all species displayed within TNR. These plans will be in line with requirements under the NCA 1980, the Australasian Regional Association of Zoological Parks and Aquaria (ARAZPA) requirements, 'Kangaroos in Captivity' (1996) and the second report of the ACT Kangaroo Advisory Committee. Plans will include details of housing, husbandry, veterinary care, food supply, specific disease control methods as required and details of records to be kept.

Detailed records are kept for display animals where individuals are distinguishable e.g. by tagging, including numbers, gender, births, weight, deaths and disposals and any relevant health information. A variety of identification methods are used including tagging and micro-chipping. Records are maintained on the International Species Inventory System, and Animal Records Keeping System.

#### **10.1.4 Accreditation**

The TNR collection falls within the definition of zoo under the World Zoo Conservation Strategy and complies with the conditions set out in the Strategy. TNR is an accredited member of ARAZPA. Management will continue the existing liaison and interaction with other facilities to increase and share information relating to the captive management of native species.

#### **10.1.5 Future displays**

Current displays are based on large naturally vegetated enclosures, although some supplementary feeding of animals is required. If new display facilities are introduced to TNR, they will need to be appropriately resourced.



**Decisions for new displays or upgrading existing displays:**

- **Should satisfy an established conservation, education or scientific objective.**
- **Must comply with the provisions laid down in the TNR Public Works Implementation Plan and this plan of management.**
- **Will be based on an assessment of the resources required to sustain such a display.**

An animal collection plan is required for the planning and development of future displays. The plan will include species selection criteria which will form the basis for deciding on future displays. While it is anticipated that TNR will concentrate on the collection and display of endemic species, non-endemic species also will be considered.

**Species selection criteria for future displays will be based on the following:**

- **That the species has ACT regional significance (the geographical boundary for "regional" species may vary somewhat given the variance in mobility and range size e.g. between birds and reptiles); and**
- **The species are threatened in their natural habitat; or**
- **The species are of particular educational or scientific interest.**

Current display species will also be assessed against these criteria. Those species which do not meet these criteria will be phased out of TNR through natural attrition and relocation to other wildlife parks.

**10.1.6 Management actions - wildlife displays**

- a. **Develop and implement an animal collection plan.**
- b. **Maintain accreditation for the collection through, and as a member of, ARAZPA.**
- c. **Continue to prepare interpretation material with relevant information to allow visitors to encounter wildlife and enhance their experiences at TNR.**
- d. **Phase out species incompatible with the species selection criteria.**
- e. **Continue to maintain high standards of animal husbandry and maintain animals in a healthy condition with an emphasis on their welfare.**
- f. **Prepare management plans for all species held and manage animals in accordance with the plans.**
- g. **Continue to maintain detailed and accurate records for captive wildlife and where appropriate, tissue samples.**
- h. **Introduce new species that meet the species selection criteria in line with proposals for TNR's development, the animal collection plan and available resources.**
- i. **Continue to assist with research into the conservation of wildlife through approved research projects.**



## **10.2 WILDLIFE FACILITIES**

Enclosures are designed to contain and protect captive animals and, through good management, minimise adverse effects such as drought on wild populations. Steps will be taken to reduce any risk of pollution within the wildlife enclosures.

Details relating to enclosure design and construction e.g. siting, layout and building materials, will be included in species management plans and meet the requirements of the particular species as well as the requirements set out in Section 7.6.3.

Enclosures provide for pedestrian access for visitors and some sealed walkways are suitable for wheel chairs. Enclosure location and design will ensure ease of visitor access, including people with disabilities, and ease of locating wildlife. Walkways are based on an hierarchical path network with primary loop paths through each exhibit and secondary paths for special interests or experiences. The system will be clearly marked and, where necessary, new trails will be added or older trails modified.

Signage and other interpretation material is regularly assessed for effectiveness and upgraded when required. Pamphlets and maps will be integrated with the sign to enhance the visitor experience. In line with the increased emphasis on TNR as a significant nature based tourism destination, signature signage will be developed and put in place throughout TNR.

Management tracks, gates and lane ways are provided to allow easy access and transfer of animals. Enclosures are inspected on a regular basis to maintain security and a high level of animal management.

Management authorities may restrict public access to enclosures when appropriate for management activities or in the interests of public safety (e.g. construction or development activities, for wildlife management practices, etc.).

### **10.2.1 Management actions - wildlife facilities**

- a. Continue to ensure enclosures are consistent with the latest animal husbandry and welfare standards.**
- b. Continue to develop enclosure walk ways to enhance visitor experience.**
- c. Develop and put in place signature signage (uniform with an identifying symbol) throughout TNR.**
- d. Continue to integrate pamphlets and maps with signage to enhance the visitor experience.**
- e. Continue to inspect enclosures regularly for security and to maintain a high level of management.**

### 10.3 WILDLIFE SUPPORT AREA

The wildlife support area (the animal house and related facilities) was constructed in 1980 as the support area for the wildlife enclosures to:

- Provide for the rearing, care and treatment of all native birds and other animals displayed at TNR;
- Provide settling-in and quarantine facilities for animals being introduced to TNR; and
- Provide a food storage and preparation area.

Other facilities include grain storage silos, a walk-in cool room and freezer, additional animal pens and a water supply. The area is fenced to provide a one hectare enclosure within which a large dam has been constructed. A dual drainage system has been installed to provide for control of contaminants such as faeces and food scraps and is designed to prevent their entry into the local water local course.

Although the wildlife support area has been used for keeping sick and injured animals, these have always been animals from displays such as koalas or animals that were to be released into the enclosures. It is not intended for the wildlife support area to function as an animal wildlife hospital for the ACT. The ACT Government veterinarian supports animal health issues for TNR. There has been little call on the facility's quarantine capabilities and no occasion where complete isolation has been required. Specialist facilities in the wildlife support area for breeding include aviaries, incubators and brooder pens.

The most important functions that the wildlife support area performs currently is as the food storage and preparation area and as a breeding facility to assist in TNR's conservation role. The requirements for feeding captive animals is continually reviewed.

Any expansion of current wildlife enclosures or introduction of new displays will require an assessment of the ability of the wildlife support area and associated resources, including staff with animal husbandry expertise, to meet increased requirements. The Public Works Implementation Plan will identify proposed future expansion for the special purpose reserve and include the need to assess future requirements for wildlife support area facilities.

#### 10.3.1 Management actions - wildlife support area

- a. Continue to maintain facilities at a high standard of operation, hygiene and animal welfare.
- b. Continue to review food and preparation requirements.
- c. Ensure veterinary services are available to TNR for health and husbandry management and monitoring of captive and free-ranging populations.
- d. Continue to upgrade and develop the wildlife support facilities as appropriate to meet developing requirements.
- e. Continue to identify future requirements, including resourcing, for the animal house in line with any decisions to expand the wildlife enclosures.

## **11. MANAGEMENT ORGANISATION AND OPERATIONS**

### **SPECIFIC MANAGEMENT OBJECTIVES**

- **Continue to develop an establishment of excellence in the field of conservation recreation.**
- **Ensure resources meet TNR's management and development requirements.**
- **Maintain efficient use of resources to ensure environmentally sound land management practices.**
- **Achieve community support for the management and development of TNR.**
- **Promote a safe, healthy and satisfying work environment for all employees.**

### **11.1 ORGANISATION AND OPERATIONS**

#### **11.1.1 Background**

Under the NCA 1980 the powers of the Conservator are delegated to conservation officers within the ACT Parks and Conservation Service of Environment ACT for the day-to-day management of public land. The Parks and Conservation Service role within TNR is to manage and protect the natural and cultural resources while providing for a range of recreational and educational opportunities for visitors. The Land Act provides general objectives for the management of TNR as a national park and special purpose reserve and the Management Plan is intended to provide overall policies, management objectives and prioritised actions. Policies, procedures and guidelines are prepared at the working level and a detailed Implementation Plan will be prepared within twelve months of finalisation of the Management Plan.

TNR management strives to maintain excellence in the field of conservation recreation and encourages support from the community for the management and development of TNR.

#### **11.1.2 Staffing**

The Manager and staff are appropriately qualified in the area of resource management. They are authorised under relevant legislation (see Section 2.1.1.) and all staff receive training in a variety of skills relevant to field and administrative tasks, including courses in explosives and chemical use; four-wheel driving and chain-saw use; computer use; community consultation and service delivery; and training in Equal Employment Opportunity principles, including access and equity.

In keeping with Environment ACT policy the reserve seeks to provide a safe and satisfying work place for all employees by maintaining a high standard of occupational health and safety and encouraging sound workplace practices.

### 11.1.3 Budget

A budget for TNR is provided by the ACT Government for wages and salaries as well as the direct costs for reserve management as part of the Environment ACT operational budget. Other sources of funding are sought through:

- Capital works, major and minor new works funding;
- major and minor plant and equipment funding;
- funding through Commonwealth programs;
- sponsorship and volunteer contribution (see Section 7.8.); and
- fees and charges.

### 11.1.4 Operational Support

TNR's support requirements include depot facilities for administration, communication, storage, employee amenities, maintenance and construction as well as equipment, machinery, vehicles, fuel and materials. The depot is located between the VIC and animal enclosures (see Figure 2).

TNR is reasonably self-sufficient in terms of equipment for a majority of its work programs. Major trail construction and ripping for rabbit control does however require a bulldozer which in the past has been acquired externally. Contractors are used as required. TNR works closely with Namadgi National Park and has a reciprocal arrangement in relation to assistance and equipment.

Ranger activities form the basis of what TNR has to offer as an educational, conservation, recreational and tourist facility. In line with the Government policy of promoting TNR as a major destination for nature based tourism in the ACT, the number of permanent, temporary and seasonal Rangers and other support will need to be managed and reviewed to keep pace with visitor expectations and demands.

### 11.1.5 Management actions - management organisation and operations

- Ensure administrative facilities are maintained and upgraded as required.**
- Review the current residential accommodation available in TNR and develop an accommodation strategy.**
- Continue to provide training to all staff in Occupational Health and Safety policy and guidelines, Equal Employment Opportunity principles, and relevant field and administrative skills.**
- Manage and review staff numbers to keep pace with visitor expectations and demands.**
- Ensure financial resources are maximised and managed in an efficient and effective way to meet stated objectives.**

## 12. PLAN IMPLEMENTATION

Management Actions identified in this plan along with actions identified in other planning documents such as the Annual Priority Weed Control Program and the Bush Fire (Fuel) Management Plan will form the basis of the Tidbinbilla Nature Reserve Implementation Plan. This Implementation Plan will confirm, or re-assess in the light of new information, the priority listings as shown in the following table, detail the tasks to be performed, set target dates and define performance indicators. Relevant peak community groups will be consulted during the preparation of the Implementation Plan.

### 12.1 MANAGEMENT ACTIONS: SUMMARY OF PRIORITIES

#### HIGH PRIORITY

REF. NO. IN PLAN	ACTION
3.3.1 c.	Manage each zone in accordance with the identified land uses.
3.3.1 d.	Assess the viability of providing concessions and/ or establishing a commercial centre to cater for visitor needs.
4.2.1 b.	Develop management strategies to minimise impact by visitors.
4.3.1 a.	Ensure future works and management activities within the reserve do not adversely impact on existing landscape values.
4.3.1 c.	Develop strategies for the management and control of native and exotic plant species.
4.3.1 d.	Develop an interpretative program which relates both the positive and negative aspects of pine forests to the community.
4.4.4 a.	Protect, conserve and rehabilitate wildlife habitat within TNR.
4.4.4 b.	Develop management strategies for rare, threatened, invasive, non local and exotic species of vegetation in TNR where appropriate.
4.4.4 d.	Develop a register of significant vegetation sites within the reserve and incorporate the information into the GIS.
4.4.4 e.	Prepare conservation strategies for threatened native plant species and provide for long term monitoring.
4.5.1 a.	Protect, conserve and rehabilitate wildlife habitat within TNR.
4.5.1 b.	Prepare management strategies as soon as practicable for selected free-ranging and all captive wildlife.
4.5.1 c.	Establish monitoring programs for at-risk or potential problem species.
4.5.1 d.	Manage free-ranging native animal populations by means of humane and where practicable non-lethal techniques.
5.2.4 a.	Conserve and protect cultural sites within TNR from damage, gradual decay or disturbance wherever possible.
5.2.4 b.	Continue to implement a cultural heritage interpretative program and interpret cultural heritage sites where they directly relate to the rest of TNR and its objectives.
5.2.4 c.	Continue to develop the sites of significance data base.
5.2.4 h.	Use Schedule 2 of the Land Act, with the assistance of Boot and Bulbeck's (1991) criteria when assessing buildings, sites and objects.
5.2.4 i.	Seek comment on the management of TNR's Aboriginal heritage from local Aboriginal groups.
6.1.4 a.	Continue to encourage recycling through staff and visitor education programs and by maintaining a 'no bins' policy.

REF. NO. IN PLAN	ACTION
6.1.4 c.	Establish strategies to control pollutants and waste that is generated within TNR.
6.1.4 d.	Liaise with other relevant agencies and neighbours to ensure a consistent approach to pollution and waste management.
6.2.3 a.	Implement the actions identified in the Bushfire Fuel Management Plan in conjunction with other ACT government land managers.
6.2.3 b.	Participate with the Emergency Services Bureau in the control of bushfires, and continue employee participation in Environment ACT and BFC sponsored training programs.
6.2.3 d.	Maintain fire trails to accepted standards.
6.2.3 e.	Assist in preparing the annual Fire Action Plan.
6.2.3 h.	Closure of the reserve during periods of total fire ban.
6.3.4 a.	Continue to monitor and control pest plant species in accordance with the ACT Weeds Strategy.
6.3.4 b.	Detect and monitor new pest species.
6.3.4 c.	Continue to monitor and record details of eradication methods and success rates to assist management in future control programs.
6.3.4 d.	Continue to assess the cultural and heritage value of exotic plantings and introduce strategies for their control.
6.3.4 e.	Continue to provide appropriate training to all volunteers assisting with pest plant control activities.
6.4.3 a.	Continue to control and monitor exotic vertebrates in TNR.
6.4.3 b.	Maintain contact with sources of research information on vertebrate pest control and impact of pest species.
6.4.3 c.	Continue to prohibit the entry of domestic animals into the reserve.
7.2.1 a.	Continue to maintain and upgrade existing visitor facilities as required within the scope of the management plan..
7.2.1 c.	Continue to monitor visitor impact on TNR and identify management strategies to prevent adverse impacts on the recreational facilities and environment.
7.2.1 d.	Continue to integrate pamphlets and maps with signage to enhance the visitor experience.
7.2.1 f.	Develop and maintain a clear hierarchy of management within and between the wildlife enclosures
7.3.1 b.	Continue to conduct a program of Ranger-guided activities.
7.3.1 c.	Monitor the environmental and social impact of permitted activities and as necessary review the location and provision for such activities.
7.4.1 a.	Continue to assess and monitor visitor facilities to minimise and eliminate potential safety risks.
7.4.1 b.	Restrict access to areas that may pose a risk to visitor safety by erecting any necessary barriers and warning devices around work sites or closing parts of the reserve where there is a possible safety risk e.g. on days of high fire risk.
7.4.1 c.	Develop an emergency response strategy for TNR to include appropriate contacts, search procedures, emergency vehicle access and first aid procedures.
7.4.1 d.	Train all staff in First Aid.
7.4.1 e.	Continue to advise/inform visitors on aspects of in TNR.
7.5.3 a.	Continue to liaise with the Compliance and Quarantine Services business unit for law enforcement support and training.
7.5.3 b.	Assess the adequacy of signs in relation to legal requirements to ensure that visitors are aware of their responsibilities and constraints on their use of areas.
7.5.3 c.	Enforce relevant legislation using an educative approach where possible.

REF. NO. IN PLAN	ACTION
7.6.4 a.	Continue to conduct an impact assessment process to identify potential environmental risk for all minor and major developments in TNR.
7.6.4 b.	Continue to identify low impact recreation activities and facilities appropriate for the national park.
7.6.4 d.	Minimise the impact of developments within TNR on the existing landscape and other environmental attributes through sympathetic planning, design and siting, construction and maintenance.
7.7.1 a.	Identify and assess future potential tourist opportunities and developments.
7.7.1 b.	Manage tourist facilities/opportunities to minimise environmental damage and conflict with existing facilities.
7.7.1 d.	Establish baseline data for monitoring tourist effects on TNR and implement a monitoring program.
7.8.6 c.	Continue to seek funding over and above budget allocations through grant submissions, fees and charges, sponsorship and retail sales.
7.8.6 d.	Monitor visitor numbers, satisfaction and requirements to maximise the standard of customer service.
7.8.6 e.	Continue to promote the reserve as a quality natural attraction.
8.1.3 a.	Continue to promote broad public awareness as an essential part of education to strengthen attitudes, conservation values and actions which are compatible with ecologically sustainable development.
8.1.3 b.	Continue to implement a visitor information, interpretation and education program for TNR within the regional context.
8.1.3 c.	Continue to provide high quality interpretative activity programs for all client groups.
8.1.3 f.	Continue to encourage environmental education and interpretation training for Rangers.
8.2.4 a.	Continue to liaise with neighbours and interest groups such as the Tidbinbilla Pioneers Association to ensure consistent and co-operative management of the Tidbinbilla area.
8.2.4 b.	Continue to co-operate with neighbours in agreed pest control programs.
8.2.4 c.	Continue to provide and encourage support and training for the Friends of Tidbinbilla and other groups and contribute to the development of an annual activities program for the group.
8.3.4 c.	Continue to promote activities and tourism products.
8.3.4 d.	Continue to TNR through the use of local media events.
8.3.4 e.	Participate in Environment ACT and Tourist Drive 5 promotional activities.
9.1.6 a.	Continue to regulate research projects through a licence system to ensure projects are appropriate.
9.1.6 c.	Enhance TNR's contribution to conservation through the maintenance of captive colonies of local wildlife for co-operative research projects.
9.1.6 d.	Conduct baseline surveys and monitor flora and fauna to assess changes and the impact of management actions.
9.2.4 a.	Assist in the identification of potential commercial activities suitable for TNR.
9.2.4 b.	Continue to assist in developing detailed criteria for assessing concession applications.
9.2.4 c.	Continue to assist in developing a system for assessing and granting concession permits and licences to ensure all applications are assessed and perform against set conditions.
9.2.4 d.	Monitor concessions and related activities to ensure they are consistent with management objectives and for likely environmental impacts.



REF. NO. IN PLAN	ACTION
9.2.4 e.	Assist in establishing a system for assessing non-concessionable activities.
10.1.6 a.	Develop and implement an animal collection plan.
10.1.6 b.	Maintain accreditation for the collection through, and as a member of, ARAZPA.
10.1.6 c.	Continue to prepare interpretation material with relevant information to allow visitors to encounter wildlife and enhance their experiences at TNR.
10.1.6 e	Continue to maintain high standards of animal husbandry and maintain animals in a healthy condition with an emphasis on their welfare.
10.1.6 f.	Prepare species management plans for all species held and manage animals in accordance with the plans.
10.1.6 g.	Continue to maintain detailed and accurate records for captive wildlife and where appropriate, tissue samples.
10.1.6 i.	Continue to assist in research into the conservation of wildlife through approved research projects.
10.2.1 b.	Continue to develop enclosure walk ways to enhance visitor experience.
10.2.1 d.	Continue to integrate pamphlets and maps with signage to enhance the visitor experience.
10.2.1 e.	Continue to inspect enclosures regularly for security and to maintain a high level of management.
10.3.1 a.	Continue to maintain facilities at a high standard of operation, hygiene and animal welfare.
10.3.1 c.	Ensure veterinary services are available to TNR for health and husbandry management and monitoring of captive and free-ranging populations.
11.1.5 c.	Continue to provide training to all staff in Occupational Health and Safety policy and guidelines, Equal Employment Opportunity principles, and relevant field and administrative skills.
11.1.5 d.	Manage and review staff numbers to keep pace with visitor expectations and demands.
11.1.5 e.	Ensure financial resources are maximised and managed in an efficient and effective way to meet stated objectives.

**MEDIUM-HIGH PRIORITY**

4.2.1 c.	Provide protection for significant sites by monitoring human and natural processes and assessing the impacts of proposed works.
4.3.1 b.	Screen or otherwise treat visually unattractive areas.
4.4.4 c.	Identify opportunities for regeneration and rehabilitation
4.4.4 g.	Continue to carry out ecological surveys of species and vegetation dynamics within TNR.
6.1.4 b.	Continue to monitor water quality in TNR.
6.2.3 c	Prepare maps showing areas where chemical fire retardants should not be used and where fire would be beneficial or otherwise for native vegetation and flora.
6.2.3 f.	Develop and implement a strategy to minimise the effect of hazard reduction burning on <i>E. viminalis</i> around the koala enclosure, whilst ensuring adequate protection.
7.7.1 c.	Continue to maintain TNR's significant reputation as a quality tourist destination by interpreting the biodiversity and cultural heritage sites.
7.8.6 d	Monitor visitor numbers, satisfaction and requirements to maximise the standard of 'customer service'.
8.1.3 e.	Participate in the development of an environment education package for teachers.
8.3.4 a.	Continue to evaluate the current promotion strategies for TNR.
8.3.4 b.	Prepare a promotion strategy for TNR.
9.1.6 b.	Continue to support and contribute to scientific research relating to Australian flora and fauna.



**MEDIUM PRIORITY**

REF. NO. IN PLAN	ACTION
3.3.1 a.	Continue to contribute to the development of the TNR Public Works Implementation Plan, ensuring proposals are consistent with this plan and the overall management objectives of TNR.
3.3.1 b.	Provide for low impact recreation activities in the national park zone.
3.3.1 e.	Assess existing facilities and recreational activities to ensure that they are located at the most appropriate sites.
4.1.1 a.	Continue to record data from the weather station to a high standard.
4.1.1 c.	Maintain accurate flood history records.
4.2.1 a.	Maintain a central register of significant geological sites.
4.2.1 d.	Continue to develop and maintain a geological resource-based interpretative program relevant to the reserve to increase visitor knowledge and awareness.
4.4.4 f.	Reintroduce endemic native plant species if appropriate.
4.5.1 e.	Explore the feasibility of reintroduction of locally extinct ACT species.
4.5.1 f.	Continue to develop interpretation programs that use the attraction of captive species in TNR to highlight and explain the requirements of free-ranging native species, in support of the reserve's objectives.
5.2.4 d.	Develop a management strategy and an interpretation policy for Nil Desperandum.
5.2.4 e.	Develop a management strategy for future use of Rock Valley Homestead.
5.2.4 f.	Promote appropriate sites and the storage and display of artefacts held at TNR.
5.2.4 g.	Commission a conservation plan for sites of major significance and use the findings as a guideline for management.
6.2.3 g.	Continue liaising with neighbouring property owners about fire management.
7.2.1 b.	Upgrade permanent traffic counters at strategic locations within TNR to monitor vehicle numbers and traffic flows, as resources permit.
7.2.1 e.	Continue to assist in the preparation of a Public Works Implementation Plan and follow-up actions.
7.3.1 a.	Assist in developing criteria for assessing applications for special events.
7.6.4 c.	Continue to review current access and identify future requirements for fire and walking trails, including the hierarchy of paths in the enclosure area.
7.8.6 a.	Use revenue raised to maintain and expand the level of service provided within TNR.
7.8.6 b.	Assist in developing a sponsorship strategy for TNR in relation to facilities, activities and promotional material.
8.1.3 d.	Continue to liaise with ACT Government authorities and other education professionals in the development of programs and education kits for Rangers which link with formal education programs.
8.2.4 d.	Formalise arrangements with the Department of Education for the co-operative management of pest plants and animals (particularly weeds and rabbits) between Birrigai and TNR.
8.2.4 e.	Participate in developing management agreements with neighbours and other reserve users.
9.1.6 e.	Conduct visitor surveys when resourcing allows.
10.1.6 h.	Introduce new species that meet the species selection criteria in line with proposals for TNR's development, the animal collection plan and available resources.
10.2.1 a.	Continue to ensure enclosures are consistent with the latest animal husbandry and welfare standards.
10.2.1 c.	Develop and put in place signature signage throughout TNR.
10.3.1 b.	Continue to review food and preparation requirements.

12. PLAN IMPLEMENTATION

REF. NO. IN PLAN	ACTION
10.3.1 d.	Continue to upgrade and develop the wildlife support area as appropriate to meet developing requirements.
10.3.1 e.	Continue to identify future requirements, including resourcing, for the wildlife support area in line with any decisions to expand the wildlife enclosures.
11.1.5 a.	Ensure administrative facilities are maintained and upgraded as required.
11.1.5 b.	Review the current residential accommodation available in TNR and develop an accommodation strategy.

**LOW PRIORITY**

REF. NO. IN PLAN	ACTION
4.1.1 b.	Identify and record important micro-climates in TNR.
7.2.1 g.	Investigate an internal system for moving people.
9.2.4 f.	Assist in establish a training/familiarisation program for concessionaires.
10.1.6 d.	Phase out species incompatible with the species selection criteria.

## GLOSSARY

<b>abundance</b>	The frequency of occurrence of a species or other group within a sample that is usually expressed as a relative frequency to other species or groups in the sample. Also, size of a population in an area of ground covered by plant cover.
<b>ACT Heritage Places Register</b>	A register of locations, places and sites which have been investigated and accepted as having particular significance (see also Interim Heritage Places Register). Sites listed in the Interim Heritage Places Register may be forwarded for inclusion in the ACT Heritage Places Register, administered by the ACT Planning Authority. The ACT Heritage Places Register is included in the Territory Plan.
<b>ACT Interim Heritage Places Register</b>	A list setting out nominations for the Heritage Places Register which need to be investigated (see also Heritage Places Register). It lists natural and cultural heritage places in the ACT, including details about their location, their importance and the actions required to ensure their conservation. It is administered by the Heritage Council of the ACT.
<b>biological control</b>	A method of controlling pests through the controlled introduction one or more of their natural predators.
<b>captive management</b>	Management of wildlife within enclosures.
<b>captive wildlife</b>	Wildlife within enclosures as animal displays for the purpose of education.
<b>chemical fire retardants</b>	Chemical mixtures (primarily phosphorus-based), which may be dumped from the air or applied from the ground to control or extinguish fires.
<b>Compliance and Quarantine Services business unit</b>	The law enforcement unit of Environment ACT which also issues licences for a variety of activities relating to nature conservation principles.
<b>concession</b>	Person or body corporate to whom a concession has been granted, as by a Government. A concession is one who is granted the right to provide facilities or services for visitor use and enjoyment on a commercial basis.
<b>Conservator of Flora and Fauna</b>	A public servant whose duties include those stipulated in the <i>Nature Conservation Act 1980</i> , under Part 1A - Administration.

<b>controlled activities</b>	These are defined in the Land Act. They include anything that intrudes beyond lease boundaries onto, over or under Public Land.
<b>Designated Areas</b>	Any land in the ACT which has the special characteristics of the National Capital as identified within the National Capital Plan.
<b>ecological surveys</b>	Studies of the organisms in an area and their interrelationships with the environment.
<b>ecologically sustainable development</b>	Activities or management practices which minimise the impact on natural ecological processes - non detrimental practices or activities.
<b>ecosystem</b>	A recognisable assemblage of animals, plants and other organisms and the non-living parts of the environment with which they interact.
<b>endemic</b>	Species naturally occurring only within a defined area/region.
<b>environmental assessment</b>	An assessment of the likely environmental impacts of a proposed development or change of land use.
<b>exotic species (plant or animal)</b>	A species not indigenous to an area/region deliberately or accidentally introduced by human action.
<b>feral animal</b>	An animal introduced to an area or habitat that is non-indigenous (exotic) and that has established in the wild, especially cats, dogs, pigs, goats
<b>fire hazard data</b>	Data which enables an assessment of the risk of bushfire events, or the difficulty of fire suppression or control. Can include information such as wind speed and direction, weather, available fuel, access and aspect.
<b>Geographic Information System</b>	A computer-based system that stores tabular and graphical data on the geography, geology, fauna and flora and other aspects of a region, and enables the data to be analysed in a way that can be used for practical land management.
<b>geomorphology</b>	The study of the Earth's physical surface features and the way in which they have developed.
<b>grassland</b>	An area of largely treeless land (but may be associated with a woodland overstorey) comprising a mixture of grasses, grass-like species and forbs.

<b>Heritage Places Register</b>	A register of locations, places and sites which have been investigated and accepted as having particular significance (see also Interim Heritage Places Register). Sites listed in the Interim Heritage Places Register may be forwarded for inclusion in the ACT Heritage Places Register which is administered by the ACT Planning Authority. The ACT Heritage Places Register is included in the Territory Plan.
<b>indigenous species</b>	Species which are native to, or occur naturally, as part of the biota of the area.
<b>Interim Heritage Places Register</b>	A list setting out nominations for the Heritage Places Register which need to be investigated (see also Heritage Places Register). It lists natural and cultural heritage places in the ACT, including details about their location, their importance and the actions required to ensure their conservation. It is administered by the Heritage Council of the ACT.
<b>Landcare</b>	A community based environment rehabilitation movement, often associated with correcting land degradation, but increasingly focusing on total catchment issues such as the water cycle and dryland salinity.
<b>Land (Planning and Environment) Act 1991 - Land Act</b>	The basis for planning, land use, development and management of land in the ACT.
<b>local provenance</b>	The original plants or area from which seed, pollen or propagules were collected.
<b>management agreement</b>	A document describing agreed standards for other agency works on land managed by the ACT Parks and Conservation Service of Environment ACT.
<b>management plan</b>	A written statement, prepared under the Land Act, approved by the Minister and adopted by the ACT Assembly, of the management policies, strategies and practices which will be adopted in the management of an area of Public Land.
<b>National Capital Plan</b>	A document produced and administered by the NCPA (pursuant to the <i>Australian Capital Territory (Planning and Land Management) Act 1988</i> ) which stipulates the planning and development direction of the Territory in accordance with its national significance.
<b>National Capital Authority</b>	(NCA) Established under the <i>Australian Capital Territory (Planning and Land Management) Act 1988</i> to, among other things, prepare, administer and review a National Capital Plan. (Formerly the National Capital Planning Authority.)

<b>national park</b>	An area set aside to conserve the natural environment and to provide for recreation education and research. It is managed for its importance with respect to one or more natural features, such as its natural history, geography, geology, flora and fauna.
<b>nature conservation area</b>	An area set apart for the purpose of the conservation or preservation of natural and/or cultural values.
<b>nature reserve</b>	An area set aside to conserve the natural environment and to provide for recreation, education and research
<b>ParkCare</b>	A program of volunteer participation which aims to develop, co-ordinate, promote and evaluate activities to rehabilitate land areas managed by Environment ACT.
<b>pine wilding</b>	Any introduced plantation pine which has seeded and grown in a non-plantation area.
<b>prescribed burning</b>	(also controlled burning) The burning of leaf litter and other organic matter, commonly in forested land, in order to reduce the amount of available fuel and thus reduce the likelihood of a severe bushfire.
<b>Public Land</b>	Areas of land in the ACT identified within the Territory Plan as an 'overlay' within the broader context of a land use policy, under reserve types of wilderness, national park and nature reserve and reflecting the management objectives for the particular area.
<b>reintroduction</b>	The deliberate establishment of an organism into part or all of its native range from which it had disappeared with the specific aim of fostering a viable self-sustaining population for conservation purposes.
<b>sedimentary rocks</b>	Rock formed by the sedimentation and compaction of organic or inorganic particles or fragments over geologic time.
<b>significant flora or vegetation</b>	Vegetation of scientific importance, often due to its restricted distribution which may be listed in legislation or policy documents.
<b>Silurian sediments</b>	A clay soil with high levels of sodium which is generally alkaline, has low fertility and is susceptible to gully erosion.

<b>Territory Plan</b>	A document administered by PALM in response to the requirements of the Commonwealth's <i>Australian Capital Territory (Planning and Land Management) Act 1988</i> . The object of the Territory Plan is to ensure, in a manner not inconsistent with the National Capital Plan, that the planning and development of the Territory provides the people of the Territory with an attractive, safe and efficient environment in which to live.
<b>understorey</b>	In a vegetation association, the smaller species of plants that do not form part of the canopy or ground cover.
<b>Wilderness Area</b>	An area of land containing features of the natural environment which is substantially undisturbed by human influences.
<b>woodland</b>	A tract of land covered by trees which do not form a closed canopy.
<b>zoning</b>	A planning strategy used to delineate land use policy and often to protect resource values, to reduce the potential for conflict between uses and to ensure that uses are compatible with land capabilities.
<b>zoological significance</b>	Fauna of scientific importance, often due to its restricted distribution or level of abundance.

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## APPENDIX 1

### PLANNING HISTORY

In 1936 the first land for public reserve in the Tidbinbilla area (about 810 hectares) was set aside. At the time the Royal Society of Canberra proposed to conduct biological research in the area and in 1939 a koala enclosure was established by the Institute of Anatomy near Hurdle Creek for the purpose of studying the relationships between koalas and human health. The intervention of World War II and associated reallocation of resources saw little of significance happen in the area until 1959 when the Royal Society of Canberra again supported the establishment of a National Fauna Reserve.

Government approval to establish the Fauna Reserve was given in November 1962. It was supported by the Department of Interior, the Royal Society of Canberra and the CSIRO and the land area was increased to 3629 hectares. A number of land acquisitions were made over the next few years and in 1966 Dr Harry Frith, head of the CSIRO at the time, presented a draft proposal to the Tidbinbilla Fauna Reserve Advisory Panel for the development of the Tidbinbilla Fauna Reserve.

In 1967 the Advisory Panel agreed that S R Margules and Associates of Kingston, ACT, be engaged to prepare a development plan for the reserve. It is recorded that Cabinet approved the Margules plan in principle but asked for a modified program to be submitted. In 1968 a Master Plan for the Tidbinbilla Flora and Fauna Reserve was produced by S R Margules and Associates. The Margules plan identified the purpose of the reserve to be:

- The preservation of natural flora and fauna;
- Public education;
- Public recreation; and
- Serious study.

It also provided a basic resource assessment, divided the reserve into six management zones and addressed a number of management issues relevant at the time.

The first wildlife display was introduced at TNR in 1969 and the reserve was gazetted as a Public Park in 1971. Over the next two decades staff became increasingly involved in nature conservation: Captive wildlife management with the expansion of wildlife enclosures; the construction of nature walks and trails; a Visitor Information Centre, a new works Depot and staff accommodation; and general expansion of the reserve to its current status.

After the gazettal in 1971 documents were prepared on development priorities and the fauna display but little progress was made until 1986 when a more formal attempt was made to produce a draft management plan. Over the following years committees were formed, workshops held and documents were prepared in relation to issues such as the history of TNR, selection of wildlife display species, future development of TNR visitor facilities and the identification of natural and cultural resources within the reserve.

In 1989 a document was produced as a result of staff workshops, identifying relevant issues to be included in the draft management plan and identifying the need for gazettal of TNR under the then *Nature Conservation Ordinance 1980* to provide the highest degree of protection available for a nature conservation area in the ACT. Such gazettal would have imposed a legal requirement for a plan of management for TNR. On 18 July 1991 TNR was Gazetted as a nature reserve under the

*Nature Conservation Act 1980*. The development of the *Land (Planning and Environment) Act 1991* transferred the requirement for management plans for nature reserves from the *Nature Conservation Act 1980* to the Land Act. The release of the Territory Plan in 1993 saw TNR become a national park and special purpose reserve.

This plan has been prepared using information and issues gathered from these past processes; input from TNR staff and the planning committee made up of the Reserve and Area Managers, Senior Project Officer and employees with specific relevant interest or knowledge; government agencies; and with community assistance from groups with special interest in TNR.

## APPENDIX 2

### RELEVANT LEGISLATION

In 1991 the whole of TNR was gazetted as nature reserve under the *Nature Conservation Act 1980* in recognition of its status and providing it with the highest possible protection available for conservation areas in the ACT.

The *Land (Planning and Environment) Act 1991* is the instrument under which TNR is reserved. The management authority for areas reserved as Public Land (Nature Reserve and Special Purpose Reserve) under this Act is vested in the Conservator of Flora and Fauna and the ACT Parks and Conservation Service of Environment ACT. At present the management of TNR is subject to a wide range of legislation, both Commonwealth and ACT including:

#### Commonwealth legislation

- *Australian Capital Territory (Planning and Land Management) Act 1988* under which the National Capital Plan and Territory Plan is prepared.
- *Australian Heritage Commission Act 1975* which establishes the Register of the National Estate and imposes responsibilities on Commonwealth authorities relating to the protection of national estate values.
- *Environment Protection (Impact of Proposals) Act 1974* provides for the environmental assessment of certain developments and actions of Commonwealth authorities.

#### ACT legislation

- *Air Pollution Act 1985*
- *Bushfire Act 1936* - for fire protection and suppression
- *Crimes Act 1900*
- *Crimes (Offences Against the Government) Act 1989*
- *Dog Control Act 1975*
- *Electricity and Water Act 1988*
- *Fishing Act 1967*
- *Heritage Objects Act 1991* - for heritage objects protection
- *Housing Assistance Act 1987*
- *Land (Planning and Environment) Act 1991* - for heritage site protection, environmental impact assessment, public land classification and management plan
- *Litter Act 1977*
- *Motor Traffic Act 1936* - for access and parking
- *Nature Conservation Act 1980* and Regulations - for wildlife protection and regulating activities within the national park area
- *Noxious Weeds Act 1921*
- *Pesticides Act 1989*
- *Plant Diseases Act 1934*
- *Pounds Act 1928*
- *Protection of Lands Act 1937*
- *Public health Act 1928*

## APPENDIX 2

- *Rabbit Destruction Act 1919*
- *Roads and Public Places Act 1937*
- *Soil Conservation Act 1960*
- *Stock Act 1991*
- *Stock Diseases Act 1933*
- *Trespass on Territory Lands Act 1923*
- *Water Pollution Act 1984*
- *Weapons Act 1992* - for use of firearms by reserve personnel

## APPENDIX 3

### PLANT NAMES REFERRED TO IN THE TEXT

#### COMMON NAME

#### BOTANICAL NAME

NATIVE PLANTS	
Brown barrel	<i>Eucalyptus fastigata</i>
Narrow-leaved peppermint	<i>Eucalyptus roberstonii</i>
Broad-leaved peppermint	<i>Eucalyptus dives</i>
Ribbon gum	<i>Eucalyptus viminalis</i>
Grass tree	<i>Xanthorrhoea australis</i>
Kangaroo grass	<i>Themeda triandra</i>
Mountain gum	<i>Eucalyptus dalrympleana</i>
Snow gum	<i>Eucalyptus pauciflora</i>
Alpine ash	<i>Eucalyptus delegatensis</i>
Burgan	<i>Kunzea ericoides</i>
Clustered everlasting daisy	<i>Helichrysum semipapposum</i>

PEST PLANT SPECIES	
Sweet briar	<i>Rosa rubiginosa</i>
Blackberry	<i>Rubus fruticosus</i>
Willows	<i>Salix babylonica</i>
Poplars	<i>Populus sp</i>
Pine	<i>Pinus radiata</i>
Woolly thistle	<i>Onopordum acanthium</i>
Serrated tussock	<i>Nassella trichotoma</i>
Paterson's curse	<i>Echium plantagineum</i>
Saffron thistle	<i>Carthamus lanatus</i>
Hemlock	<i>Conium maculatum</i>
St John's wort	<i>Hypericum perforatum</i>



## APPENDIX 4

### VERTEBRATE FAUNA OF TIDBINBILLA NATURE RESERVE (OTHER THAN BIRDS)

#### COMMON NAME

#### SCIENTIFIC NAME

FISH	
#Silver perch	<i>Bidyanus bidyanus</i>
Mountain galaxias	<i>Galaxias olidus</i>
#Golden perch	<i>Macquaria ambigua</i>
*Rainbow trout	<i>Oncorhynchus mykiss</i>
*Brown trout	<i>Salmo trutta</i>

AMPHIBIANS	
Common eastern froglet	<i>Crinia signifera</i>
Eastern banjo frog	<i>Limnodynastes dumerilii</i>
Spotted grass frog	<i>Limnodynastes tasmaniensis</i>
Lesueur's frog	<i>Litoria lesueuri</i>
Verreaux's tree frog	<i>Litoria verreauxii</i>
Peron's tree frog	<i>Litoria peronii</i>
Brown toadlet	<i>Pseudophryne bibronii</i>
Red groined toadlet	<i>Uperoleia laevisgata</i>

REPTILES	
Long-necked tortoise	<i>Chelodina longicollis</i>
Mountain dragon	<i>Amphibolurus diemensis</i>
Jacky lizard	<i>Amphibolurus muricatus</i>
Red-throated skink	<i>Bassiana platynota</i>
Three-lined skink	<i>Bassiana duperreyi</i>
Four-fingered skink	<i>Carlia tetradactyla</i>
Robust skink	<i>Ctenotus robustus</i>
Cunningham's skink	<i>Egernia cunninghami</i>
Black rock skink	<i>Egernia saxatilis</i>
White's skink	<i>Egernia whitii</i>
Highland water skink	<i>Eulamprus tympanum</i>
Heatwoles's water skink	<i>Eulamprus heatwolei</i>
Three toed skink	<i>Hemiergis decresiensis</i>
Maccoy's skink	<i>Hemiergis maccoyi</i>
Delicate skink	<i>Lampropholis delicata</i>
Spotted grass skink	<i>Lampropholis guichenoti</i>
Eastern water dragon	<i>Physignathus lesueurii</i>
Bearded dragon	<i>Pogona barbatus</i>

## COMMON NAME

## SCIENTIFIC NAME

REPTILES (Cont.)	
Coventry's skink	<i>Pseudemoia coventryi</i>
Entrecasteaux's skink	<i>Pseudemoia entrecasteauxii</i>
Spencer's skink	<i>Pseudemoia spenceri</i>
Blotched blue-tongue lizard	<i>Tiliqua nigrolutea</i>
Eastern blue-tongue lizard	<i>Tiliqua scincoides</i>
Lace monitor	<i>Varanus varius</i>
Highland copperhead	<i>Austrelaps ramsayi</i>
White-lipped snake	<i>Drysdalia coronoides</i>
Mainland tiger snake	<i>Notechis scutatus</i>
Red-bellied black snake	<i>Pseudechis porphyriacus</i>
Eastern brown snake	<i>Pseudonaja textilis</i>
Blind snake	<i>Ramphotyphlops nigrescens</i>

NATIVE MAMMALS	
Short-beaked echidna	<i>Tachyglossus aculeatus</i>
Platypus	<i>Ornithorhynchus anatinus</i>
Brown antechinus	<i>Antechinus stuartii</i>
Dusky antechinus	<i>Antechinus swainsonii</i>
Spotted-tailed quoll	<i>Dasyurus maculatus</i>
Water rat	<i>Hydromys chrysogaster</i>
Bush rat	<i>Rattus fuscipes</i>
Koala	<i>Phascolarctos cinereus</i>
Common wombat	<i>Vombatus ursinus</i>
Feathertail glider	<i>Acrobates pygmaeus</i>
Eastern pigmy-possum	<i>Cercartetus nanus</i>
Sugar glider	<i>Petaurus breviceps</i>
Yellow-bellied glider	<i>Petaurus australis</i>
Greater glider	<i>Petauroides volans</i>
Common ringtail possum	<i>Pseudocheirus peregrinus</i>
Common brushtail possum	<i>Trichosurus vulpecula</i>
Eastern grey kangaroo	<i>Macropus giganteus</i>
#Red kangaroo	<i>Macropus rufus</i>
Common wallaroo	<i>Macropus robustus</i>
#Tammar wallaby	<i>Macropus eugenii</i>
Red-necked wallaby	<i>Macropus rufogriseus</i>
Brush-tailed rock wallaby	<i>Petrogale penicillata</i>
Swamp wallaby	<i>Wallabia bicolor</i>
Dingo	<i>Canis familiaris dingo</i>
Chocolate wattled bat	<i>Chalinolobus morio</i>
Goulds wattled bat	<i>Chalinolobus gouldii</i>
Eastern false pipistrelle	<i>Falsistrellus tasmaniensis</i>
Grey-headed flying fox	<i>Pteropus poliocephalus</i>
White-striped free-tail Bat	<i>Nyctonomus australis</i>
Lesser long-eared bat	<i>Nyctophylus geoffroyi</i>
Gould's long-eared bat	<i>Nyctophylus gouldi</i>

## COMMON NAME

## SCIENTIFIC NAME

NATIVE MAMMALS (Cont.)	
Large forest bat	<i>Vespandelus darlingtoni</i>
Southern forest bat	<i>Vespandelus regulus</i>
Little forest bat	<i>Vespandelus vulturnus</i>

INTRODUCED MAMMALS	
*Feral dog	<i>Canis familiaris familiaris</i>
*Feral cat	<i>Felis catus</i>
*House mouse	<i>Mus domesticus</i>
*European rabbit	<i>Oryctolagus cuniculus</i>
*Black rat	<i>Rattus rattus</i>
*Feral pig	<i>Sus scrofa</i>
*Red fox	<i>Vulpes vulpes</i>

SIGNIFICANT INVERTEBRATE SPECIES	
Bogong moth	<i>Agrostis infusa</i>
Wingless grasshopper	<i>Keyacris scurra</i>

## KEY

\* Introduced not native to Australia.

# Introduced native not endemic to the area.

## **APPENDIX 5**

### **MOUNTAINS AND BUSHLANDS**

#### **LAND USE POLICIES**

Policies applicable to the national park zone of TNR.  
Reproduced from The Territory Plan Written Statement.  
(Pages 265-269)

## B14 MOUNTAINS AND BUSHLANDS LAND USE POLICIES

*The most impressive views from Canberra are of the Brindabella and Tidbinbilla ranges which are located in the southern and western parts of the ACT. The ecology of this predominantly bushland area ranges from high mountains, snow covered in winter, to foothills, damp, fern covered gullies, alpine meadows, rivers, creeks and open valleys, all of which contribute to its scenic, ecological and recreational value.*

*Mountains and bushlands areas are part of the Territory's regional open space system which contributes to the unique landscape setting of Canberra and provides an example of typical Southern Tablelands landscapes.*

*The area encompasses the Cotter River and Gudgenby catchment, Namadgi National Park and Tidbinbilla Nature Reserve. The area is the main source of Canberra's water supply and environmental protection policies reflect the need to protect that water quality.*

*Land within Mountains and Bushlands is intended to be protected from urban development and used primarily for nature conservation and as a water supply catchment area, for recreation purposes, scientific study and education whilst ensuring that water quality and the natural environment are preserved.*

*Some of the land in Mountains and Bushlands areas are identified as Public Land (see Overlay Provisions). This mechanism provides for Plans of Management to be prepared by the Conservator of Wildlife in consultation with the public. It provides a significant layer of protection in addition to the Mountains and Bushlands Policies through other provisions in the Land Act, ensuring that management of the land is consistent with the land use policy.*

## 1. OBJECTIVES

The objectives of the Mountains and Bushlands Land Use Policies are:

- (a) to protect existing and future water supply
- (b) to protect ecological resources by conserving vegetation communities in a relatively undisturbed state, maintaining a diversity of plant and animal habitats and assuring the maintenance of ecological functions within land and aquatic habitats
- (c) to maintain the mountains and bushlands area as an important visual background to Canberra
- (d) to provide opportunities for appropriate recreational use
- (e) to protect and conserve the significant cultural and natural heritage resources and their landscape context
- (f) to provide and manage access to Namadgi National Park and related areas for recreation and essential management purposes consistent with the objectives
- (g) to ensure that the area may be used for appropriate environmental education, research and scientific study
- (h) to ensure compatibility between land uses, water and water catchment uses and the natural character of the mountain and bushland areas
- (i) to maintain and enhance the scenic and landscape character of the mountain and bushlands and associated areas and to ensure that any development is unobtrusive and compatible with its surroundings and the intrinsic landscape qualities of the mountain and bushlands.

## 2.3 Water Supply

The Cotter River and Gudgenby River catchments shall be planned and managed as multiple use areas and the intensity of development and provision of public access shall not adversely impact on water quality in those Rivers.

No development shall be permitted in the Tennent reservoir catchment which might prejudice its future use for the supply of water.

## 2.4 Special Conditions for Environmental Protection

Existing ecological and landscape values shall be preserved, maintaining the continuity of the tree canopy, ensuring natural regeneration of existing ground cover and understorey vegetation.

Areas that have been disturbed shall be allowed to regenerate naturally or be replanted.

The intention is to provide for low intensity recreation and buffer areas for wilderness and environmentally sensitive areas with a diversity of forest and open valley environments.

Development shall be kept to the minimum required to support land management activities and to service the visiting public and where possible confined to the perimeter of environmentally sensitive areas or to adjacent areas.

## 2.5 Development Conditions

- (a) Conditions may be included in a lease, or in an agreement collateral to a lease.
- (b) Conditions may require that a visual assessment of the site is recorded showing the location of existing and proposed buildings and intensity of existing and proposed development and landscaping.
- (c) The following matters may be included in conditions:
  - (i) protection of natural site characteristics, visual diversity and the general character of the landscape
  - (ii) protection of woodlands, native grasslands, forests and waterways
  - (iii) retention, regeneration and planting of trees

## 2. CONTROLS

### 2.1 Land Use

Subject to the provisions of the Mountains and Bushlands Land Use Policies below, land described on the Map as Mountains and Bushlands may be used for one or more of the purposes listed in the schedule below.

SCHEDULE 1 - MOUNTAINS AND BUSHLANDS LAND USE	
Purposes for which land may be used	
Agriculture	Parkland
Communications facility <sup>†*</sup>	Road <sup>†</sup>
Land management facility	Scientific research establishment <sup>†</sup>
MAJOR UTILITY INSTALLATION <sup>†</sup>	Tourist facility <sup>†</sup>
Nature conservation area	Woodlot
Overnight camping area <sup>†</sup>	
<sup>†</sup> May be subject to mandatory preliminary assessment under the Land Act (see Appendix II) <sup>*</sup> Only permissible if it is unable to provide satisfactory service in another location.	
<p>Notwithstanding the provisions of this schedule, land may be used for temporary uses, minor uses and uses ancillary to the principal use of the land, provided there is no conflict with the objectives in section 1. Subject to the National Capital Plan, land may be used for the purpose of educational, recreational, cultural, community, research, farm tourist development or other rural business which is an adjunct to the primary permitted use of the land and which does not adversely impact on the environmental quality of the locality.</p>	

### 2.2 Land Use Restrictions

**Agriculture** - Livestock grazing shall only be permitted where retention of open grasslands or savanna woodlands is desired for landscape, ecology or management reasons. In environmentally sensitive areas grazing shall only be permitted for the purpose of environmental management such as vegetation management or fire hazard reduction.

Land shall not be used for Agriculture in Cotter Catchment, Namadgi National Park and Tidbinbilla and Bullen Ranges.

**Tourist facility** - Buildings shall be low rise with emphasis on the integration of the development into the landscape and compatibility with related environmentally sensitive areas. Accommodation shall be lodge style and/or self contained cabins.