



**AUSTRALIAN CAPITAL TERRITORY**  
**LAND (PLANNING AND ENVIRONMENT) ACT 1991**  
**MURRUMBIDGEE RIVER CORRIDOR PLAN OF MANAGEMENT**  
**INSTRUMENT OF APPROVAL**  
**NO. 268 OF 1997**

Under section 204 paragraph (a) of the *Land (Planning and Environment) Act 1991*, I approve the Murrumbidgee River Corridor 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 24 day of December ~~November~~ 1997

A handwritten signature in black ink, appearing to read 'Gary Humphries'.

Gary Humphries  
Minister for the Environment, Land and Planning

MANAGEMENT PLAN 1998

# Murrumbidgee River Corridor



Department of Urban Services  
Conservation Series No. 12

Australian Capital Territory Government



# MURRUMBIDGEE RIVER CORRIDOR

## MANAGEMENT PLAN



JANUARY 1998



## NOTES

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

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## MINISTERIAL FOREWORD

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This plan of management has been prepared by Environment ACT and describes how the Murrumbidgee River Corridor (the Corridor) is to be managed to enhance its conservation, educational and recreational values.

The Corridor forms part of the ACT's open space system that contributes to the unique landscape setting of Canberra and provides diverse ecological, scenic, cultural and recreational resources. While recreation is the key use of the Corridor, conservation of its natural and cultural heritage is the primary goal for management.

The Corridor stretches the entire length of the Murrumbidgee River through the ACT and forms a buffer zone for the River from its rural and urban surroundings. The ACT has a responsibility, as a large urban area within the Murrumbidgee's catchment, to ensure that it does not degrade water quality or reduce water flow and thereby disadvantage downstream communities. The ACT Government, through its various agencies, is committed to conserving the ecological and water resources of the Murrumbidgee River, and management of the Corridor is an essential component of this process.

The preparation of this plan of management has involved extensive community consultation. Where possible, comments have been incorporated into the management framework for the Corridor. The resulting plan, therefore, has the objective of reflecting broader community aspirations for the long-term use and protection of the Corridor.



Gary Humphries MLA  
Minister for the Environment, Land and Planning

12 January 1998

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# PREFACE

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This management plan was originally written to satisfy section 52 of the Nature Conservation Act 1980 which required the preparation of management plans for areas reserved under its provisions. On 2 April 1992 the Land (Planning and Environment) Act 1991 superseded the Nature Conservation Act as the legislative basis for the reservation of public land for nature conservation. This Act requires that management plans be prepared for land identified as Public Land under the Territory Plan.

All maps/diagrams in this management plan are indicative only and do not override boundaries or land classifications determined by the National Capital Plan or the Territory Plan.

This Management Plan incorporates and assumes the following management principles:

## **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 will include 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.

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 balance of uses for the Corridor including the provision of access to Corridor sites to 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 within the Service of the geographical information system data base of sites of natural and cultural heritage significance.

Within the Corridor, the Service will adopt practices that minimise soil erosion.

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.

Hazard reduction and fire suppression for surrounding land uses and for the neighbouring grazing lands will be balanced to ensure that the valuable natural and cultural features of the Corridor are not adversely affected.

## **Acknowledgements**

A preliminary draft of the plan was prepared by Applied Natural Resource Management as consultants to the Service.

Expert advice and comment was provided by ACT Conservation Consultative Committee (now the Environment Advisory Committee) and the ACT Heritage Council. Valuable contributions were also made by other ACT Government Service agencies, the Australian Nature Conservation Agency (formerly Australian National Parks and Wildlife Service and now part of Environment Australia), the NSW National Parks and Wildlife Service and the Australian Heritage Commission.

Maps were prepared by the ACT Land Information Office of the Department of Urban Services.

## **Community comment**

A preliminary draft of this plan was released for public comment in November 1995. This plan has been reviewed in the light of comments received and a number of amendments have been made.

This plan applies to the area shown in Figure 1 (page 4) which consists of:

- the Murrumbidgee River Corridor as defined by the Territory Plan (TP 1990); and
- any areas of the Corridor's gazetted nature reserves that extend beyond this defined area.

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

The ACT Parks and Conservation Service is part of the Department of Urban Services. The Service manages open space, natural, cultural and rural 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;
- protection of native flora and fauna;
- environmental interpretation and advice on pest plant and animal control;
- support of nature-based tourism; and
- coordination of volunteer services.

## ACRONYMS

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ACT	Australian Capital Territory
ACTEW	ACTEW Corporation Ltd (formerly ACT Electricity and Water)
ACTPA	ACT Planning Authority (now PALM)
ACTP&CS	ACT Parks and Conservation Service
Corridor	Murrumbidgee River Corridor
CSIRO	Commonwealth Scientific and Industrial Research Organisation
ICOMOS	International Council on Monuments and Sites; the Australian committee of which is known as Australia ICOMOS
MRC	Murrumbidgee River Corridor
NCDC	National Capital Development Commission
NCOSS	National Capital Open Space System
NCPA	National Capital Planning Authority (now NCA)
NCA	National Capital Authority
NSW	New South Wales
PALM	Planning and Land Management
Service	ACT Parks and Conservation Service
UNESCO	United Nations Educational, Scientific and Cultural Organisation

# SUMMARY

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The Murrumbidgee River Corridor (MRC) is a strip of land and water up to 4 km wide along the full length (66 km) of the ACT sector of the Murrumbidgee River. Land uses in the Corridor range from rural operations, community centres and museums to low-impact recreation areas and nature reserves.

The Corridor serves important hydrological, ecological and recreational functions. It contains important aquatic systems and many significant natural and cultural features. It provides outstanding opportunities for river recreation close to the urban area of Canberra and Queanbeyan, for which there is considerable demand.

The proximity of the Corridor to urban development requires a co-ordinated management effort in order to preserve the area's ecological, cultural and recreational attributes. Treated wastewater and stormwater discharges are potential sources of sediment and nutrients, whilst rural activities along the river and recreational pursuits may similarly pose a threat to riverine water quality.

This management plan addresses the management issues, objectives, management policies and procedures specific to the Corridor. It is consistent with the National Capital Plan and the Territory Plan.

There is an unresolved native title claim over a small area near the Murrumbidgee River. It is unknown when this or other 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.

Management of the Corridor cannot take place in isolation and this plan defines its context within the wider system of ACT land and water planning, administration and management.

The management philosophy for the Corridor strives to retain the area's generally natural and undeveloped character. This will ensure that the area remains a distinctive resource for the people of the region and an integral part of one of Australia's major river systems.

Visitor use is important and as this depends on the natural and cultural values of the area, it follows that protection of the primary values of the Corridor should be the first responsibility of management. It is essential for the protection of the Corridor that the area's natural and cultural values are available to visitors in such a manner that the resource can be sustained for future generations and high water quality for downstream users is maintained.

The plan is organised in two main parts. The first (sections 1 to 3) explains the role of the Corridor as part of open space in the ACT. It identifies the function of the Corridor, and discusses management strategies in the context of contemporary planning and legislative guidelines and preferred longer term management.

The second part (sections 4 to 14) contains the proposed management objectives, strategies and guidelines for management. It also includes proposals for further investigations, and follow-up management planning for specific areas or topics. Important elements of this part of the plan include:

- the maintenance of water quality and the integrity of aquatic systems;
- the protection of discrete nature conservation areas within the Corridor;
- the management of Lanyon as a 'place museum', involving presentation of each of the important periods in its history in their landscape context, and in a way which promotes visitor participation and appreciation; and
- further investigations and conservation programs are outlined for other important cultural resources.

The range of recreation opportunities will be maintained and enhanced. Particular attention will be paid to retaining the special recreation character of specific sites. A range of opportunities will be provided for picnics, swimming, canoeing, walking and many other activities. Maps of recreation areas (identified as Special Purpose Reserves as designated in the Territory Plan) are at Appendix 3. Interpretation programs for visitors and the general community will increase awareness of the special character, use opportunities, vulnerabilities and management requirements of the area.

This plan applies to Special Purpose Reserves that are referred to as Nature Reserves.

The plan includes management guidelines for resource protection and arrangements for the leasehold management of extensive grazing areas and management of other concessions and utilities. Rural lessees will continue to play an important role in the management of parts of the Corridor. Systems for management operations and decisions, and co-ordination with other authorities and areas, are also outlined.

Broad priorities for the many different management programs, both new and continuing, are summarised in section 14. The first implementation plan detailing the tasks to be performed and the target dates for management priorities will be prepared within twelve months of the release of this plan. The relevant peak community groups will be consulted during the preparation of the implementation plan.

## **PART ONE      BACKGROUND**

### **1.      THE MANAGEMENT PLAN**

#### **1.1.      THE PURPOSE**

This plan has been developed to meet the requirements of the *Land (Planning and Environment) Act 199* (Land Act) for the preparation of plans of management for areas identified as Public Land in the Territory Plan.

The purpose of this management plan is to develop a clear management direction for the Corridor and particularly in terms of management systems and policies. Some of the more detailed management prescriptions and operations will be covered in specific action plans on relevant themes, such as management of cultural precincts, education programs, interpretation, fire management and land rehabilitation. An implementation plan will be prepared to achieve the management priorities stated in this plan. These are referred to, but are not part of this plan of management.

#### **1.2.      SCOPE OF THE PLAN**

This plan addresses the Corridor as the defined and integrated land management unit illustrated at Figure 1. In places the plan also refers to adjoining land areas, the management of which is relevant to the Corridor and where a common management approach is preferred.

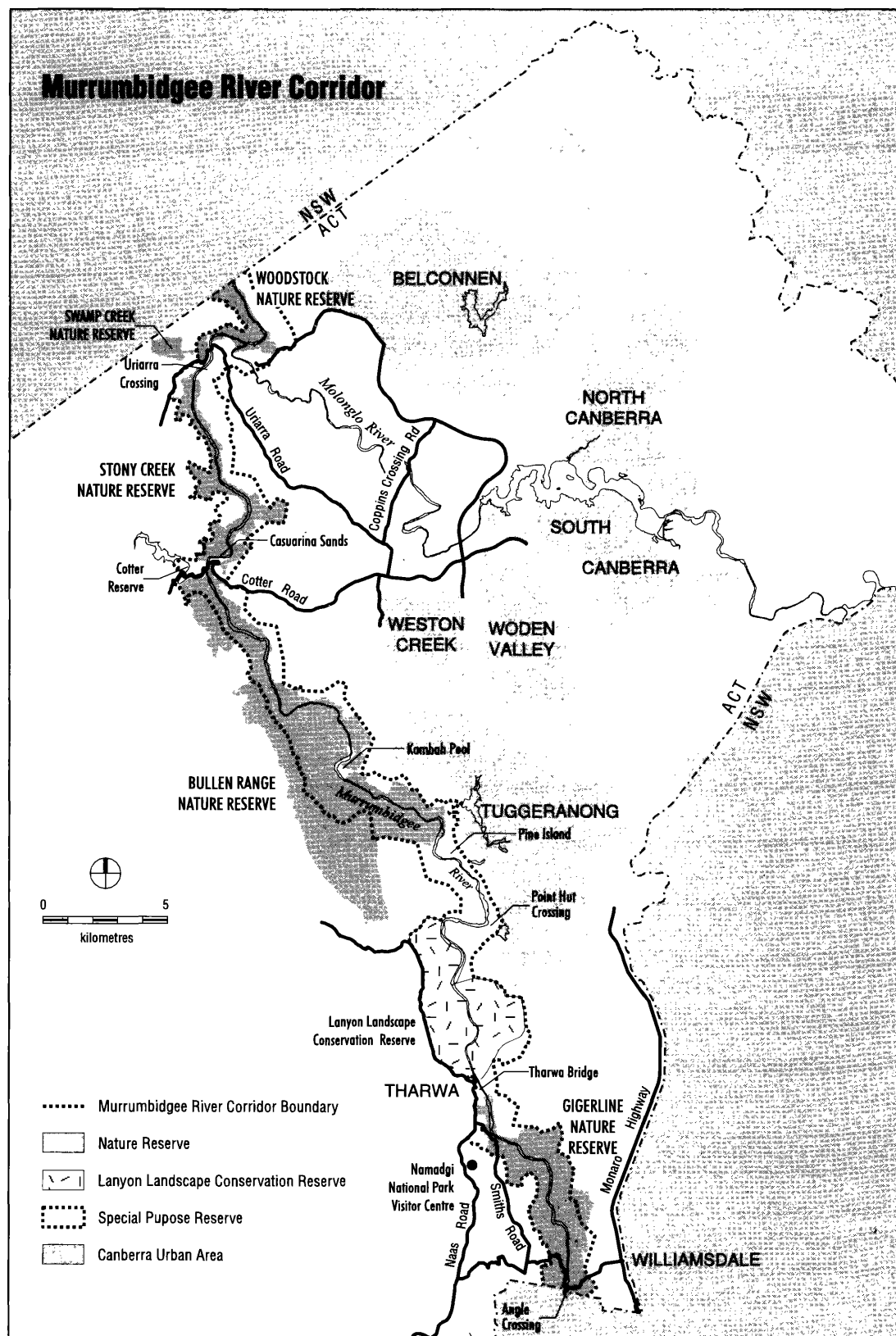
This management plan applies to the Corridor, as defined in the Territory Plan and adjoining areas included in the Corridor Nature Reserves and Special Purpose Reserves. It excludes the urban land of Tharwa village which interacts with the Corridor. Descriptions existing for the Corridor include:

- the Register of the National Estate which defines a smaller area on the basis of heritage values only;
- the National Capital Plan which defines the Corridor for statutory land use purposes; and
- the Territory Plan which defines Public Land boundaries with prescribed management objectives.

#### **1.3.      DEVELOPMENT OF A MANAGEMENT MODEL FOR THE CORRIDOR**

The Murrumbidgee River is degraded along much of its length. Within the ACT, the proximity of Australia's largest inland city has major impacts upon the river. This plan is concerned with the management of the river and its environs within the relatively small ACT sector, which contributes to the wider picture of interstate water resource and land management of the Murrumbidgee River Catchment. Further details of this context are outlined in section 3.1.

**Figure 1. The Murrumbidgee River Corridor**





The Corridor as defined in this plan bears very little relation to the river catchment. It is comprised of the river and a variable and relatively narrow strip of non-urban land which has close ecological and landscape connections with the river in the ACT. The Corridor has a maximum width of 4 km, and although mainly rural in character, includes native forest, and riparian landscapes as well as some urban and recreation infrastructure.

A conservation plan (Conservation Plan 1986) outlining a conceptual framework for the Corridor addressed these ideas, and formed the basis for finalising the Murrumbidgee River Corridor Policy Plan (NCDC 1988). The MRC Policy Plan is the principal statement of the purpose and general concept of the Corridor as a land use unit, and sets the land use planning framework.

The statutory 'special requirements' for the Corridor identified in the National Capital (NCPA 1990) are based on the MRC Policy Plan, and set certain parameters for the Territory Plan and this management plan. The planning background to this plan is further discussed at section 3.4.

## **2. PLANNING AND MANAGEMENT CONTEXT**

### **2.1. THE REGIONAL CONTEXT**

The ACT is in the upper catchment of the Murray-Darling River system, the largest drainage basin in Australia. The Murrumbidgee River catchment accounts for eight percent of the basin's area, but contributes 15 percent of the basin's total discharge. Water from the Murrumbidgee River is used throughout its length for irrigation and supplies 20 percent of the area used for irrigation in the Basin. The Murrumbidgee River also supplies water to wetlands, which are nationally important wildlife habitat areas such as the Barren Box Swamp.

A number of other river management issues have become evident through liaison and consultation with neighbours and interest groups and have been identified as community concerns in recent years. These include:

- protection of cultural values,
- the loss of wetlands, and the alteration of riverine landscapes, and
- decline in the diversity and number of native flora and fauna.

This Management Plan recognises these community concerns.

Consistent with the Territory Plan, the waters of the ACT section of the river are managed to ensure that stream flow and quality are consistent with the protection of relevant environmental values. The ACT also has an obligation under the Inter-governmental Agreement on the Environment, the Council of Australian Governments Water Resources Reform Agenda and the *Seat of Government Acceptance Act 1909* to provide appropriate water quality protection.

As the Corridor lies within the Murrumbidgee Catchment there is a need to be cognisant of catchment wide management actions and strategies. Initiatives such as the development of the Murrumbidgee Catchment Action Plan and the deliberations and expectations of community organisations such as the Murrumbidgee Catchment Co-ordinating Committee need to be taken into account in the management of the ACT corridor. Also, a number of community landcare groups are working across the catchment to reverse land degradation problems and enhance the health of the catchment. The overall purpose of these initiatives is to work towards achieving sustainable land use. The management regime of the Corridor needs to keep abreast of these initiatives and be able to complement wider catchment management actions. Regular liaison to access these initiatives will be continued through ACT Government representation on catchment and natural resource management committees and where possible regular contact will be maintained with community groups across the catchment.

#### **2.1.1 River recreation**

A rapidly growing proportion of all water-based recreation in south-eastern Australia is associated with rivers and dams, rather than the coast. This presents a number of challenges for authorities responsible for management of rivers and of riverine lands, including the need for:

- in-stream water use to be allocated to a wider range of uses, not just agricultural and domestic use;
- monitoring and control of water quality for these uses;
- a range of riverine environments for different recreation activities;
- planning controls over river bank development and the improvement of public access to rivers;
- and

- to develop management policies that provide for an appropriate spectrum of uses.

### **2.1.2. In-stream requirements for recreation**

The Murrumbidgee River and other Australian rivers have flow characteristics which set them apart from many rivers elsewhere in the world, including:

- low flows (discharge) in relation to catchment area; and
- variable flows, characterised by long periods of small base flows interrupted by short periods of extremely high flows.

These factors limit the opportunities for water-based activities such as swimming, canoeing and rafting, and cause a bias towards water-enhanced activities. Fishing is the most common water-based activity, with picnics, games, walking, and sightseeing being popular water-enhanced activities. A high proportion of visitors are attracted to the scenic and natural features of the River Corridor.

In a preliminary inventory of wild and scenic rivers in New South Wales, the Murrumbidgee River upstream of the ACT was categorised as scenic and recreational (Helman 1981). The River downstream of the ACT to Burrinjuck Dam was classified as recreational. The ACT was not considered in this study. However, application of the same methodology would classify sections of the River in the ACT as falling into the wild, scenic and recreational categories.

### **2.1.3 National Capital Open Space System**

The significance of the natural setting of the national capital has been recognised in the form of the National Capital Open Space System (NCOSS) that includes the inner hills and ridges, the major lakes and river corridors, and the distant mountains and bushland south-west of Canberra. NCOSS is a land use planning concept embodied in the National Capital Plan, and is designed to protect the landscape, ecological resources and recreational settings of the national capital.

The Corridor is an important part of NCOSS as it defines the transition from urbanisation to the rugged foothills and mountains. The Corridor links directly with other NCOSS elements, notably:

- river corridors, such as those of the Molonglo, Gudgenby, Paddys and Cotter Rivers;
- natural areas, such as the Bullen Range, Rob Roy Range and Namadgi National Park; and
- pine forests, including those at Ingledene, Uriarra, Pierces Creek and Stromlo.

## **2.2. FUNCTIONS OF THE MURRUMBIDGEE RIVER CORRIDOR IN THE ACT**

In a regional context, the Corridor has three essential roles: hydrological, ecological and social. The important elements of these are summarised below.

### **2.2.1. Hydrological role**

The River in the ACT is a small, but important part of an interstate drainage system. One of the functions of the River corridor is to maintain as natural a hydrological regime as possible. Activities which impact on this regime include; water diversion, impoundment and bedload extraction. It is also important to recognise the downstream impact which may result from urban activities on the Murrumbidgee River and its tributaries within the ACT.

### 2.2.2. Ecological roles

The Corridor is important to local and regional ecology providing:

- *freshwater aquatic ecosystems*, which are the diversity of things living, and non-living, integrated through complex energy and nutrient cycles in freshwater aquatic areas;
- *wildlife corridors* for flora and fauna including fish;
- *regional biota diversity*; and
- *geomorphological* features, particularly those related to rivers such as sand and rock terraces, alluvial fan deposits and evidence of channel migration.

### 2.2.3. Social roles

The Corridor's social roles include:

- *rural contrast* - retaining elements of nature so close to suburbia contributes to Canberra's bush capital' character;
- *city-edge definition* - this is quite unlike any other city and is an essential part of Canberra's outstanding landscape setting;
- *heritage value*, including:
  - geological and landform sites;
  - native plants and animals;
  - aboriginal sites;
  - historic sites; and
  - landscapes which define certain sites and which are part of their cultural character.
- *the rich assemblage of sites and areas* along the Corridor illustrates the evolution of human settlement of the ACT, and these places provide living and accessible examples of the rural landscapes and human activities which formerly characterised the area on which Canberra is now built;
- *recreation* - the area provides recreation opportunities for people in Canberra and Queanbeyan in several ways
  - as settings for a wide array of appropriate leisure activities, including walking, swimming, picnicking, fishing and canoeing, and
  - as a focus for other regional leisure activities which involve passing through the corridor, including walking, car-touring, horse riding and cycling;
- *nature conservation* - management of the Corridor as part of the system of nature conservation units in the Territory will help ensure protection for the full range of ecological communities in the ACT;
- *grazing* - the Corridor includes rural lands which contribute to regional primary production; and
- *landscape aesthetics* - significant scenic values encompassing an array of landscapes.

## 2.3. LAND TENURE AND MANAGEMENT FRAMEWORK

Most land is managed by the ACT Government and is referred to as Territory Land. Certain land which the Commonwealth uses or intends to use, and which is managed by the Commonwealth, is referred to as National Land.

The land tenure system of the ACT is leasehold. There is an unresolved native title claim over a small area near the Murrumbidgee River. It is unknown when this or other claims will be resolved. This management plan will be reviewed, if necessary, when there is a resolution to determine if there will be an impact on land management. Land management and protection requirements are provided for in lease conditions. Unleased land is usually managed by the ACT Government.

The Corridor is Territory Land and is administered by the ACT Government. It includes:

- land managed by the Service which is responsible for special purpose reserves, nature reserves, and the unleased parts of the Lanyon Landscape Conservation Reserve;
- leased land administered by the Government, including commercial leases (e.g. Cuppacumbalong), special purpose leases (e.g. YMCA Camp Sturt), rural leases, and land used by utilities such as ACTEW (e.g. the Lower Molonglo Water Quality Control Centre and the telecommunications industry; and
- residential leases administered by the ACT Housing Trust.

The National Capital Plan (administered by the National Planning Authority) sets out general land use policies for the Territory as a whole and prescribes Special Requirements for the MRC. These requirements are desirable in the interests of the National Capital and take effect under the Territory Plan. The requirements are outlined in the National Capital Plan and based on the *Murrumbidgee River Corridor Policy Plan* (NCDC 1988). Any management plan for the MRC is required to be prepared in the context of the Policy Plan (i.e. the special requirements). In addition, the Territory Plan establishes specific policies in relation to the River Corridor areas and for the river itself.

## **2.4. THE ACT PLANNING CONTEXT**

### **2.4.1. Background**

The evolution of the Corridor has included the following highlights.

- The Murrumbidgee River was designated an 'Area of Special National Concern' by the Commonwealth Government in 1964 because it plays an important part in defining the character of Canberra.
- The Corridor was given special recognition in the development of the National Capital Open Space System (NCDC 1976).
- The NCDC published a detailed ecological study of the Murrumbidgee River and environs in the ACT (NCDC 1981b), and later a broad-ranging review of Territory ecological resources, including the Murrumbidgee (NCDC 1984a). The Commission also conducted surveys of sites of significance (NCDC 1988b) and prepared an interpretative plan for the Corridor (Allan Fox & Associates 1987).
- The Parliamentary Joint Committee on the ACT conducted a comprehensive inquiry into the Murrumbidgee River (JC on ACT 1984) and strongly supported the concept of designation and management of the MRC as a unified area.
- The NCDC released for public comment a draft policy and development plan for the Corridor (NCDC 1983).
- In 1984, the Commonwealth minister responsible for the ACT announced that there would be no urban development on the west bank of the Murrumbidgee River.
- The Lanyon Landscape Conservation Reserve (part of the Corridor) was declared in 1985 (under the *Nature Conservation Ordinance 1980*).
- The Corridor was listed on the Register of the National Estate in March 1986.
- In 1986 the Service commenced preparation of a management plan for the MRC. A draft was released for public comment in June 1988.
- In 1988 the NCDC produced the Murrumbidgee River Corridor Policy Plan (NCDC 1988), which has been incorporated into subsequent planning documents including the National Capital Plan, the Territory Plan and this management plan.

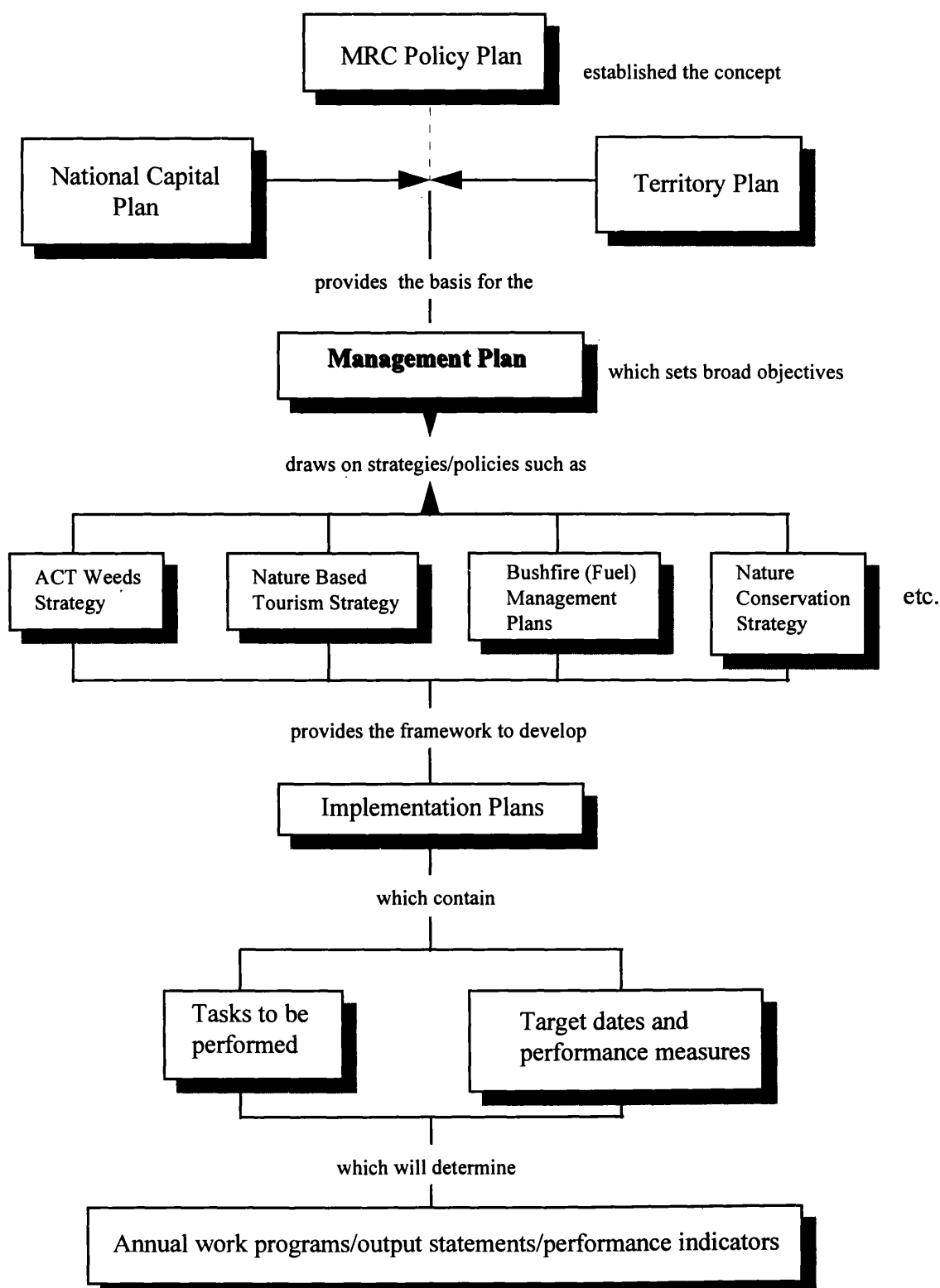
- Adoption of the ACT Water Policy Plan (NCDC 1989) set water use categories, objectives for water quality and stream flow criteria for ACT waterways, including the Murrumbidgee River.
- The NCDC and the Service negotiated an agreement on proposals for reserved areas in and adjacent to the Corridor as defined in the Policy Plan. In 1991 four nature reserves were gazetted under the provisions of the *Nature Conservation Act 1980* (see section 12).
- In conjunction with the introduction of self-government in 1989, planning for the ACT became a responsibility shared between the National Capital Planning Authority and the ACT Planning Authority.
- In 1990 the National Capital Plan (NCPA 1990) was adopted. It superseded the Policy Plan as the primary land use policy document for the Corridor. As addressed in this Management Plan, the Corridor is equivalent for practical purposes to that area defined in the National Capital Plan as an area of land with 'special requirements'. These requirements, which are made in the interests of the national capital, include conservation of the area's resources, and provision of a balanced range of compatible secondary uses.
- In October 1993 the Territory Plan was gazetted. This plan is consistent with the National Capital Plan but contains more specific controls. The Territory Plan also defines the extent of Public Land for the purposes of the Land Act, which reinforces the role of the Conservator of Flora and Fauna within the River Corridor areas of the Plan.
- In recognition of the significant legislative and administrative changes which accompanied the introduction of self-government to the ACT, a revised management plan for the Corridor (this document) has been prepared.

A schematic representation of the planning documentation for the Corridor is set out at Table 1. 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 2.

**Table 1. Functions of planning documents prepared for the Murrumbidgee River Corridor**

<b>Document</b>	<b>Functions</b>
<b>Policy</b>	
MRC Policy Plan	<p>establishes the concept of the Corridor as an integrated management area</p> <p>defines the land use planning policies for the Corridor</p>
National Capital Plan	<p>sets out general land use policies throughout the ACT</p> <p>identifies special requirements to be observed in the Corridor in the interests of the national capital</p> <p>supersedes the Policy Plan as the statutory land use policy guide</p>
Territory Plan	<p>provides for planning and development of the ACT consistent with the National Capital Plan</p> <p>identifies Public Land</p> <p>identifies the ACT Heritage Places Register</p>
<b>Management</b>	
Management plan	<p>defines an appropriate hierarchy of management objectives consistent with Territory Plan Public Land categories</p> <p>defines management policies for all relevant activities and operations</p> <p>prescribes appropriate target conditions for visitor use, land and water management</p> <p>establishes management procedures, standards and performance criteria</p> <p>outlines broad management priorities</p> <p>prescribes the detailed thematic management programs which are required to implement management objectives</p>
future Action or Precinct Plans (such as interpretation, fire, soil conservation, site and precinct management)	<p>develop an implementation plan</p> <p>specify the siting, content, timing and variability of all thematic programs</p> <p>define detailed management prescriptions and priorities</p> <p>define a timetable &amp; budget for specific works and operations</p> <p>define detailed programs of operation and maintenance</p>

**Figure 2. Hierarchy in the development of the Murrumbidgee River Corridor Management Plan**





## **2.5. EXISTING STATUTORY RESPONSIBILITIES AND BASE FOR MANAGEMENT**

At present, management of the MRC is subject to a wide range of Commonwealth and ACT legislation. This includes:

### **2.5.1. Commonwealth legislation**

- *Australian Capital Territory (Planning and Land Management) Act 1988* introduced new arrangements for the planning and development of the Territory. It established the National Capital Planning Authority as the Commonwealth planning authority for the ACT, required it to prepare a National Capital Plan and required the Territory Planning Authority to prepare a Territory Plan that is consistent with the National Capital Plan.
- *Australian Heritage Commission Act 1975* established the Register of the National Estate (on which the Corridor is listed in several ways, as explained below) and conveys certain responsibilities for Commonwealth authorities to consider and protect national estate values.
- *Environment Protection (Impact of Proposals) Act 1974* provides for the environmental assessment of certain developments and actions of Commonwealth authorities.
- *Murray-Darling Basin Act 1983* required authorities to inform the Murray-Darling Basin Commission of new proposals that may affect the flow, use control or quality of water under the control or supervision of the Commission.

### **2.5.2. ACT Legislation**

- *Air Pollution Act 1984*
- *Apiaries Act 1928* - control of bee sites
- *Bushfire Act 1936* - including fire protection and suppression
- *Cotter River Act 1914* - control over sale of food and beverages in the Cotter Reserve area
- *Crimes Act 1900*
- *Crimes (Offences against the Government) Act 1989*
- *Dog Control Act 1975*
- *Energy and Water Act 1988*
- *Fishing Act 1967*
- *Heritage Objects Act 1991* - heritage objects protection
- *Housing Assistance Act 1987*
- *Land (Planning and Environment) Act 1999* - heritage site protection, assessment of environmental impact, classification of Public Land
- *Litter Act 1977*
- *Motor Traffic Act 1936* - access, parking at recreation areas
- *Nature Conservation Act 1980* and Regulations - wildlife protection, including protection of native trees; Corridor nature reserves
- *Noxious Weeds Act 1921*
- *Nudity Act 1976* - Kambah Pool
- *Pesticides Act 1989*
- *Plant Diseases Act 1934*
- *Pounds Act 1928*
- *Protection of Lands Act 1937* - protection of Commonwealth lands from disturbances, dumping of wastes and inappropriate activities; control of quarrying for aggregate and the like
- *Public Baths and Public Bathing Act 1956* - swimming areas
- *Public Health Act 1928*
- *Rabbit Destruction Act 1919* and Regulations
- *Roads & Public Places Act 1937* and Regulations - access, right of access; control of activities
- *Stock Act 1991* and Regulations - control of grazing
- *Trespass on Territory Lands Act 1932*
- *Water Pollution Act 1984*

- *Weapons Act 1992.*

### **2.5.3. Land (Planning and Environment) Act 1991**

The *Land (Planning and Environment) Act 1991* (Land Act) is the major statutory vehicle for environmental impact assessment, the recognition and protection of natural and cultural heritage places and the reservation of Public Land in the ACT. The Land Act establishes several categories of Public Land including wilderness areas, national parks, nature reserves and special purpose reserves. It also provided for the ACT Planning Authority (now PALM) and the Territory Plan.

The Land Act is of direct relevance to management of the Corridor as it requires the preparation of a plan of management, establishes the ACT Heritage Places Register, makes provisions for the protection of all Aboriginal places, and defines management objectives for categories of Public Land. It states that public land nature reserve will be managed with conservation of the natural environment and access for recreation, education and research as the primary objectives.

### **2.5.4. Register of the National Estate**

Except for parts of some nature reserves, the area covered by this plan is entered in the Register of the National Estate as several separate but overlapping registrations (Table 2) and is subject to the *Australian Heritage Commission Act 1975*.

Heritage site identification and protection in the ACT is governed by the Land Act.

**Table 2. Places within the Murrumbidgee River Corridor which are included in the Register of the National Estate**

	Name (and description) of place	Status*	Gazette date
1	Paddys River (Cotter) caves area (also within 8)	Register	28.09.82
2	Cuppacumbalong (De Salis) Cemetery (also within 5 and 8)	Register	28.09.82
3	Lambrigg homestead area (defined as block 7, Paddys River - includes William Farrer's grave, laboratory and plots; also within 5 and 8)	Register	28.09.82
4	Lanyon canoe tree (also within 5 and 8)	Register	25.03.86
5	Lanyon bowl area (includes a large area outside the Corridor, corresponding with the area visible from Lanyon; contains 2, 3, 4, 6 and 10, overlaps 7 and 8)	Register	04.08.87
6	Lanyon homestead area (also within 5 and 8)	Register	21.03.78
7	Murrumbidgee River (includes the River and its immediate banks from the source to the junction with the Murray River, including the ACT sector; overlaps 5, 8, 9 and 10)	Interim	25.03.86
8	Murrumbidgee valley area (defined as the Corridor in the ACT, as delineated in the draft Policy Plan (NCDC 1983), plus Williamson Hill east of Lanyon; includes 1-4, 6, 9 and 10, overlaps 5 and 7)	Register	25.03.86
9	Pine Island agglomerate site (also within 7 and 8)	Register	28.09.82
10	Tharwa bridge (also within 5, 7 and 8)	Register	28.09.82
11	Cotter Pumping Station	Register	25.3.86
12	Lanyon Cemetery	Register	21.3.78

\* Includes items listed on the Australian Heritage Commission's interim list; that is, notice has been given of the Commission's intention to enter the place onto the register, but a final decision has not yet been notified; see the relevant provisions of the *Australian Heritage Commission Act 1975*. Places on the interim list are also protected (see sections 31 and 26 of the Act).

## **PART TWO      MANAGEMENT STRATEGIES AND PROGRAMS**

### **3.      MANAGEMENT OBJECTIVES AND CRITERIA**

#### **3.1.      MANAGEMENT PHILOSOPHY**

Planning for the Corridor aims to retain its present bushland, rural and cultural character. Its natural systems and cultural landscapes are particularly sensitive to disturbance and management must protect them against damage and inappropriate use.

The Corridor is only one of several areas in the region used for water-based recreation. These include the urban lakes, other river corridors and Googong Reservoir. The opportunity to experience a relatively undeveloped river environment is an important objective of this plan.

Keeping the undeveloped character of much of the Corridor will be a very important contribution to the character of the ACT. The Corridor will continue to be a distinctive resource for the people of the Canberra and Queanbeyan region as an integral part of one of Australia's major river systems. Occasionally there will be a need to review existing land tenure arrangements to rationalise the management boundaries of the MRC. This will be done in consultation with the relevant land managers and agencies.

#### **3.2.      OVERALL MANAGEMENT OBJECTIVES**

The overall management objectives for the Murrumbidgee River Corridor are:

- to conserve the endemic aquatic, riparian and riverine ecosystems;
- to provide for recreational activities appropriate to rural and natural river settings;
- to conserve natural landforms and the valley's scenery;
- to conserve and enhance habitat links through the regional landscape;
- to maintain water quality;
- to provide formal and informal educational opportunities;
- to conserve the cultural heritage landscapes, areas and sites; and
- to maintain a corridor of open rural and natural land on the western edge of Canberra, and to give clear definition to the transition from the urban landscape to the rugged forested landscape of the mountainous skyline to the west of the city.
- to provide educational and Interpretative opportunities associated with water issues relevant to the Corridor.

Specific management objectives are outlined in each of the sections of the Plan.

**3.3. FACTORS IN MANAGEMENT DECISIONS**

A management plan cannot anticipate all possible uses and activities. Rather, it must provide policies and procedures for making decisions about impacts. The most basic considerations for assessing whether potential impacts are acceptable are whether they are consistent with the Territory Plan, whether they are based on the specific resources and values of the Corridor, and whether they conflict with other appropriate uses and users.

Evaluating impacts requires an understanding of the dynamics of and relationships between natural systems and modified environments. Table 3 provides a summary of management considerations for this process.

**Table 3. Summary of management considerations for evaluation of activities or operations within the Murrumbidgee River Corridor**

<p><b>Protection or negative impact of an activity on:</b></p> <ul style="list-style-type: none"><li>• ecosystem stability (the functioning of natural systems), including hydrological and ecological processes and functions of the River corridor systems</li><li>• sites of natural or cultural heritage significance</li><li>• landscape functions of the Corridor</li><li>• recreation amenity, including appropriate recreation opportunities within the Corridor and the wider region</li><li>• opportunities for presentation and interpretation of the natural and cultural values of the region to the people of the ACT and elsewhere</li><li>• other social values.</li></ul>
<p><b>Appropriate recognition of:</b></p> <ul style="list-style-type: none"><li>• the proximity of the Corridor to the population centre of Canberra and Queanbeyan which have certain expectations for open space and recreation</li><li>• existing uses and neighbours</li><li>• the linkages of the River corridor with other parts of the ACT landscape</li><li>• the town planning context of metropolitan Canberra and its relationship to its landscape setting</li><li>• the practical realities of budget and personnel constraints.</li></ul>

The Corridor should be used to help people understand the natural and cultural elements of landscapes, and how people have related to them over time. Recreation, interpretation and education

activities should be based on the natural and cultural heritage values of the Corridor, and the contrast between its landscape and that of urban Canberra.

### **3.3.1. Assessment Criteria**

Schedule 2 of the *Land (Planning and Environment) Act 1991* provides criteria for the assessment of the heritage significance of places. These criteria will be applied to sites subject to development proposals. The proposal will then be assessed as to whether it conforms with the following criteria.

#### **Setting and context**

Whether the proposal:

- is appropriate to the range of natural and rural settings, in terms of maintaining conservation values and recreational amenity;
- is sympathetic to the Corridor's landscape functions, such as defining the city's edge and the transition between that edge and the mountains; and/or
- may be more appropriate to some other part of the ACT's open space system.

#### **Natural and cultural resources**

Whether the proposal:

- is sympathetic to the Corridor's natural values, including the conservation of its flora and fauna, and the distribution and linkage of its various habitat types;
- maintains hydrological processes, such as flood, erosion and deposition, with minimum impact from pollution;
- protects sites of geological, geomorphological, ecological and cultural significance; and
- offers opportunities to develop interpretation themes and enhance recreational experiences.

#### **Management issues**

Whether the proposal:

- affects existing rural and forestry land uses;
- requires a significant input of resources from the Service; and
- affects public safety.

### **3.3.2. Dealing with Land Use Conflicts**

Where possible land use decisions will be made which will allow multi-purpose use. However, it is accepted that this cannot always be the situation and in these cases the use which has the highest rating either through legislation or has the greater intrinsic site value will be deemed as having the higher priority.

## **4. MANAGEMENT OF HERITAGE VALUES**

### **4.1. MANAGEMENT OF WATER AND CHANNEL VALUES**

Before the Murrumbidgee River enters the ACT it has already been subjected to significant impacts in terms of water quality and flow diversion from the catchment. Water quality impacts from stormwater runoff from the ACT are minimised through a comprehensive system of lakes, water quality control ponds, gross pollutant traps and grassed floodways as well as erosion and sediment controls on land development and construction activities.

The Murrumbidgee River in the ACT is the largest and most diverse aquatic habitat in the Territory (Kendall & Lansdown 1981). Six species of native fish and seven introduced species are found in the Murrumbidgee River. Native species have declined steadily since the 1940s (Greenham 1981), probably as a result of increased fishing pressure, introduced fish species, flow regulation, and general environmental degradation (Lintermans 1991a and 1991b).

One way to manage conflicting uses of water is to establish priorities. In this case the preferred uses are conservation of aquatic resources, domestic water supply and water-based recreation.

#### **SPECIFIC MANAGEMENT OBJECTIVES**

- to protect the ecological processes of the River;
- to safeguard the quality of domestic, stock and irrigation water supplies;
- to conserve native fish and other native aquatic animal species;
- to minimise the barriers to the migration of aquatic fauna;
- to maintain appropriate public health standards for water-based recreation; and
- to maintain recreational fishing opportunities.

#### **4.1.1. Water quality management**

Water use and catchment policies are stipulated in the Territory Plan. Environmental legislation provides guidance on operational measures to achieve the Territory Plan policies.

#### **4.1.2. Protection of aquatic ecosystems**

In the ACT, further survey work and research is required on aquatic ecosystems before comprehensive management policies can be developed for them. The Murrumbidgee River ecological study (NCDC 1981b) adequately defines the major riparian habitats and establishes their protection status but major aquatic habitats have not yet been adequately defined, although some work has been done for fish (Greenham 1981, ACTP&CS Unpubl data). Such ecosystems cannot be managed in isolation from surrounding terrestrial habitats, and their protection may involve the selective exclusion of people or stock, the stabilisation of the river channel and habitat enhancement.

The oriental weatherloach, an escaped aquarium species, is the latest introduced fish species to become established in the River, with populations invading from Ginninderra Creek and the Cotter

River (Lintermans *et al.* 1990a and 1990b, Lintermans 1993). The endangered trout cod has not been recorded in the Murrumbidgee since the late 1970s (Lintermans *et al.* 1988). The two-spined blackfish has not been recorded in the Murrumbidgee in the ACT since the early 1960s, and is now found in the ACT only in the Cotter River (Lintermans 1991a).

Native fish are important in terms of their value both to nature conservation and the recreational fishery. While the distribution of these native species extends well beyond the ACT, it is important that their survival in the ACT not be compromised. The deep pools of the Murrumbidgee are important refuges for native species at times of low river flow.

Management issues which require further research as a priority for the protection of aquatic ecosystems include:

- investigation of the potential and actual impacts of adjacent land use such as agriculture and urban development on aquatic ecosystems;
- investigation of aquatic invertebrate community structure and the potential for such information use in bioindicator monitoring;
- monitoring of the impact of recreational uses on aquatic ecosystems; and
- investigation of the potential for the 'resnagging' of sections of the River for the purposes of habitat enhancement.

Natural areas of the River will be conserved by stabilising and revegetating river banks, maintaining habitat diversity, especially those crucial to the survival of threatened plants and animals, and those used as wildlife corridors. The conservation of native fish will be enhanced by monitoring and protecting deep pool refuge areas and by revegetating river banks to protect them from summer heat.

Specific aquatic conservation programs developed for the Corridor will address the following issues:

- *Migration routes.* Upstream and downstream migration of aquatic biota will be provided for in the design and construction of all structures within the river channel. This may require modification of some existing structures. Fish migration is also affected by pollution levels and fish will avoid chemical toxicants at concentrations up to ten times lower than those which will kill them. Effective management means monitoring both the movement of aquatic biota along the river channel and the factors which affect them.
- *Channel modification.* Channel modification and bed load extraction will be limited to the requirements for aquatic habitat enhancement only. For example sand and gravel extraction may be used to return the river to a more natural deep pool and rapid type structure.
- *Flow maintenance.* The Service has little control over regulating the flow of the Murrumbidgee as this occurs outside the ACT. This regulation is often unsympathetic to the needs of aquatic ecosystems, and the Service will take every opportunity to promote environmental flows that best serve the needs of aquatic species.

#### **4.1.3. Management of aquatic animals**

The Nature Conservation Act has been amended to provide greater protection to native fish and the Fishing Act is under review. The status of native fish species will be monitored as well as the impact and spread of exotic species such as trout, redfin, oriental weatherloach and carp. The Service's education programs will target anglers to promote responsible fishing practices and recreational access to important native fish habitat will be discouraged.



These principles will also be applied to the conservation of other aquatic species which are subject to harvesting pressures. For example, the Murray cray is now a protected species in the ACT after investigations revealed that angling pressure was detrimental to local populations (Lintermans and Rutzou 1991, Lintermans 1992).

#### **4.1.4. Management of water-based recreation**

Flow rates, snags, obstacles and maintaining a level of water quality which meets health requirements (see above) will all be major recreation management concerns in the Corridor.

Snags provide shelter and spawning sites for fish, and important microhabitats for invertebrates, and will be removed only where a hazard clearly exists. Swimming will not be promoted in areas identified as significant aquatic habitat. Recreation management strategies also will be implemented to protect the riparian vegetation which is essential to bank stability.

#### **4.1.5. Nuisance macrophytes and algae**

While the rate of flow in the Murrumbidgee River is usually sufficient to restrict the development of algal blooms, under certain conditions areas such as Kambah Pool are susceptible to elevated levels of problem algae such as blue-green algae. In the event of a blue-green algal bloom, the Service will follow the protocols in the ACT Algal Action Plan.

## **4.2. MANAGEMENT OF TERRESTRIAL NATURAL RESOURCE VALUES**

### **SPECIFIC MANAGEMENT OBJECTIVES**

- to protect the riverine ecosystem from unnatural disturbances;
- to protect significant geological sites and landforms from damage, and to maintain the integrity of their landscape context;
- to protect the habitats of rare and threatened plant and animal species; and
- to interpret the Corridor's natural resources for the appreciation of visitors.

#### **4.2.1. Background**

The considerable variation in the geomorphology of the Murrumbidgee River through the ACT, ranging from rocky narrow gorges to broad shallow regions with sandy banks, contains a variety of plant and animal communities of considerable nature conservation significance. This section of the plan is concerned with managing these terrestrial biological resources and conserving representative land systems, geological sites and landforms.

The main conservation threats in the Corridor are development in the catchment and increasing visitor use. Most of the changes to date have been caused by land clearance, weed infestation, grazing and frequent burning.

Information about the terrestrial resources of the Corridor has been summarised in several reports (Allan Fox & Associates 1987, Kendall 1980 and 1985, NCDC 1981b, 1984a, 1988b). Preliminary inventories are now available for most of the significant resources of the Corridor, and include the following:

- Geological sites and landforms (Allan Fox & Associates 1987, McRae-Williams 1984, NCDC 1988b). These include:
  - fossil sites, and important local geomorphological features such as Gigerline Gorge, the Gudgenby confluence, the Pine Island - Red Rocks Gorge - Kambah Pool area, and the lower Paddys River - Uriarra area.
- Rare endemic plant species (Chan 1980, Briggs & Leigh 1985, NCDC 1984a). These include:
  - *Discaria pubescens* (Rhamnaceae)
  - *Drabastrum alpestre* (Brassicaceae)
  - *Pomaderris pallida* (Rhamnaceae)
  - *Thesium australe* (Santalaceae)
- Plant communities including:
  - important remnant vegetation, including examples of the natural gradations of vegetation which used to occur across and along the Corridor (native grassland, scrub, woodland and open forest), notably at Gigerline Nature Reserve, Kambah Pool to Cotter (including the slopes of the Bullen Range), downstream of Casuarina Sands, and downstream of Uriarra Crossing;
  - regionally significant stands of the river oak along the river banks in the northern part of the Corridor; and
  - remnant stands of riparian manna gum from Angle Crossing to the Cotter Reserve (NCDC 1988b).
- Birds (Canberra Ornithologists Group 1986a and b) including:
  - honeyeater migration routes across and along the Corridor; especially at Angle Crossing, Tharwa, and from the Cotter north to Uriarra, east to Stromlo, and south-east along the River to Point Hut;
  - nesting sites of birds of prey occur in relatively undisturbed cliff areas;
  - a winter roosting area for a substantial population of the yellow-tailed black cockatoo, which is regarded as vulnerable; and
  - nesting sites of the rainbow bee-eater.
- Other species
  - The Corridor contains the only significant ACT habitat for the cave-dwelling bent-wing bat. The Paddys River caves, the nearby Paddys River mines and the water supply tunnel between Cotter dam and the pumping station have been used regularly for over-wintering by this species. While there are no bats currently using these sites, the Service will encourage the species to recolonise the area.
  - Other species of conservation significance include the nobbi dragon (Rauhala 1993), the broad-palmed frog, the brown toadlet, Rosenberg's monitor, brown treecreepers and hooded robins, the morabine grasshopper and the pink-tailed legless lizard. The Corridor provides extensive and nationally significant habitat for the last species (Osborne *et al.* 1991).

#### **4.2.2. Significant sites and areas**

The Service, in conjunction with other relevant agencies and the Flora and Fauna Committee, will continue to update the register of significant sites for the Corridor, on the basis of the Criteria of Assessment for Heritage Significance in Schedule 2 of the *Land (Planning and Environment) Act 1991*. A number of additional criteria will also be applied: The Service will manage the area to avoid any disturbance to significant sites. Recreation sites will be located where they are unlikely to compromise conservation values, and interpretation programs will explain the values of significant sites. Significant sites may be fenced out and visitor access to them restricted.

Fire regimes for significant sites, especially native grasslands, will be based on the needs of the particular plant or animal species, and weed control programs will have priority in these areas. These actions will be done in accordance with any Species Recovery Plans developed specifically for each site.

The conservation plan for Paddys River caves and mine precinct (Davey *et al.* 1992) outlines appropriate management prescriptions to ensure minimal disturbance of the ACT roosting sites of the bent-wing bat (see also the recommendations regarding the Paddys River mines area in section 4 Historic sites).

The Service will monitor honeyeater migration patterns, particularly the effects of development in southern Tuggeranong. The Service is planting shrubs and trees in strategic locations (e.g. near Point Hut Crossing) to provide shelter for the honeyeater migrations through areas which are currently relatively open.

Animal populations fluctuate depending on seasonal and other factors. Specific management strategies may be considered where the species is the cause of damage or long term alteration to habitats.

Monitoring of native species abundance and any environmental degradation due to high population numbers will be required. The ACT Government is currently reviewing policy for the management of eastern grey kangaroos.

#### **4.2.3. Other areas of nature conservation priority**

Management of the Corridor's five nature reserves is discussed in section 12. These reserves will receive priority in programs to protect soil cover, habitats and plant and animal communities.

The Corridor contains areas of native grassland, a habitat type poorly protected in the region. These areas will be assessed for their ecological significance, and where appropriate, measures implemented to ensure their conservation. For example, the Kambah Pool area contains some significant native grasslands and the Service will attempt to protect them from disturbance and nutrient enrichment from adjacent urban areas and maintain an ecologically appropriate fire regime.

Another poorly represented vegetation community in the region is the riverine stands of manna gum. In areas where such communities occur they will be protected and enhanced by supplementary plantings.

Burgan occurs within the Corridor and are primary colonisers of regenerating pasture lands. The burgan's vigorous growth has raised some management concerns. These included fire hazard, preclusion of a preferred seral progression to a more diverse vegetation structure, effects on the landscape and the species intrinsic habitat values. It is not clear how important these concerns are, and the Service will encourage relevant research programs into burgan in the Corridor. Control

measures may be warranted, for example at sites with important populations of the pink-tailed legless lizard.

A number of areas including Point Hut and the Gigerline Nature Reserve are important habitat for the rainbow bee-eater, and in these areas special attention will be directed to protecting the river banks used for nesting burrows by this bird species.

The conservation status of other species of interest will be assessed progressively and management strategies introduced as necessary in accordance with their known ecological needs.

### **4.3. MANAGEMENT OF CULTURAL HERITAGE**

#### **SPECIFIC MANAGEMENT OBJECTIVES**

- to conserve routes and places of cultural significance, including Aboriginal and historic sites;
- to obtain more knowledge and information to assist cultural resource management.
- to provide visitors with opportunities to appreciate the history of the Corridor and its surrounding districts;
- to protect places on an interim Heritage Places Register and the ACT Heritage Places register;
- to protect objects under the Heritage Objects Act 1991; and
- to protect the National Estate values of places listed on the Register of the National Estate.

#### **4.3.1. Background**

Much of the history of the Corridor, has been documented in Allan Fox & Associates (1987), Barz (1985), Barz & Winston-Gregson (1981, and 1982), Cox Tanner (1979), Department of Territories (1986b), JRC Planning Services (1987), Taylor et al. (1988) and ACT Forests' Cultural Resource Survey Draft Report undertaken by Access Archaeology Pty Ltd (1992).

The cultural sites in the Corridor vary widely in their size, type and significance, ranging from historic homesteads such as Lanyon to individual Aboriginal artefacts scattered across grasslands. The significance of these cultural resources will be evaluated in accordance with the Land Act and the *Heritage Objects Act 1991*, and will include the following:

- *Aboriginal sites near Uriarra Crossing* which are a suite of complementary gathering, occupation and quarry sites.
- *The ruins of early European farm settlement near Uriarra Crossing* which contain interesting relics of the rural struggle and consolidation phases of European settlement.
- *Paddys River mines*, the only significant hard rock mining relics in the ACT, and a symbol of the hardship of small-scale mining which has been a recurrent theme of Australia's development.
- *The ruins of Greenhills* which are the remnant of an important rural landholding on the fringe of the big squatters' runs.
- *The old Tuggeranong boundary wall*, a rare survivor of early rural demarcation.

- *The group of ruins and remnant exotic trees opposite Pine Island*, a complementary series of sites illustrating the struggle of the displaced free selectors.
- *Farrer's laboratory, trial plots, grave and homestead at Lambrigg* demonstrating the location of important plant genetic experiments with world-wide economic significance.
- *Lanyon with its precinct of related buildings and plantings, set in an historic landscape*, a complex and dramatic site, with many excellent surviving examples of distinctive phases in southern tablelands rural development.
- *The Tharwa bridge* which is an interesting survivor of timber bridge technology, and has vital district significance as a reliable crossing.
- *The Cotter Pumping Station*, still used for Canberra's water supply.
- *Cuppacumbalong* with a rich history, even though much of the existing fabric of the present site is relatively modern.
- *The De Salis cemetery, near Cuppacumbalong*, a place with direct links to the early squatters of the region.

Places within the Murrumbidgee River Corridor which are included in the Register of the National Estate are shown in Table 2, section 2.5.

There are many other sites. Some, such as scarred trees, can be said to be highly significant as a class, simply because of their rarity (in this region). Others require more investigation before they can be properly evaluated.

#### **4.3.2. Principles of cultural heritage management**

Managing the cultural heritage of the Corridor is as important as managing its natural heritage resources. Cultural heritage for the purposes of this plan refers to sites and conditions resulting from human activity.

Management of cultural landscapes is covered in section 4.4 and that of the Lanyon Landscape Conservation Reserve in section 11.

#### **4.3.3. Management practices**

More information is needed on the Corridor's cultural resources, and until this becomes available management decisions will be deliberately conservative. The following practices will apply:

- Conservation management of places and routes of cultural significance will be based on the *Australia ICOMOS charter for the conservation of places of cultural significance [the Burra Charter]* (Australia ICOMOS 1981).
- Conservation policy for the Corridor's cultural resources will complement that for the ACT and southern tablelands region.
- All cultural sites and historical routes will be included in a comprehensive ACT site register and database.
- The significance of cultural resources will be identified using statutory criteria set out in the Land Act.
- The significance and management of specific sites and areas will be determined by the Heritage Council of the ACT, in consultation with the Service and the ACT community.

- Prior to developments within MRC, sites will be assessed for their potential cultural heritage values (see section 9.1.).
- Conservation policy, management objectives and management programs for specific cultural sites will be documented in individual precinct plans (see Table 1). Until a precinct plan is adopted, no disturbance will be approved by the Service at any cultural site within the Corridor except:
  - as outlined in an already established conservation program; or
  - for essential stabilisation or repair.
- The provisions of applicable professional guidelines (e.g. under the Burra Charter, Australia ICOMOS 1981) or recommendations in Kerr (1990) will be taken into account when preparing precinct planning documents. Advice from the ACT Heritage Unit and local Aboriginal representatives, where applicable, will also be sought.
- The following, listed in priority order, will be the first sites to have precinct plans prepared:
  - Lanyon, including the homestead, all related historic structures, plantings and evidence of earlier land uses (see section 11);
  - Lambrigg, including the homestead, Farrer's laboratory, plots and grave (see section 11);
  - the Paddys River caves and mines, which have important bat habitat and populations of rare plants (see sections 4.2 and 12);
  - the Gudgenby confluence - Tharwa Sandwash area, which has an extensive scatter of Aboriginal sites as well as the De Salis Cemetery for which a precinct plan has already been prepared (Peter Freeman & Partners Pty Ltd 1987)) (see also section 12);
  - the group of Aboriginal and historic sites in the Uriarra Crossing - Swamp Creek area; and
  - scarred trees throughout the Corridor.
- Many of these sites are in need of attention, and priorities for conservation work will be developed as the precinct plans are produced.
- Disturbance of historic artefacts will not be permitted. Collection may be permitted under the Heritage Objects Act or the Land Act, for research or protection. This will be done by suitably qualified people, and where appropriate will involve consultation with the local Aboriginal community. Full site recording will precede collection.
- All artefacts collected will be appropriately documented and considered for registration under the Heritage Objects Act.

The Service will seek to ensure that the boundaries on an interim Heritage Places Register, the ACT Heritage Places Register of the Register of the National Estate, the Service will ensure that their boundaries accord as closely as possible with relevant management boundaries. Such consistency of boundaries will greatly facilitate the management of these sites.

#### **4.3.4 Registered Places**

For Registered Places management actions must be consistent with the requirements for registration of places under the Land (Environment and Planning) Act 1991

#### **4.3.5. Aboriginal sites**

The numerous Aboriginal sites within the Corridor will be managed in consultation with relevant Aboriginal organisations. The basic aim is to preserve sites from disturbance, and only permit activities that are considered essential for their investigation and protection. Interpretation of these areas will be done off site, without revealing where they are. Other sites may be included in supervised visitor use programs, depending on their vulnerability to disturbance, cultural sensitivity and their comprehensibility to visitors. Walking paths and routes will be carefully located to avoid archaeologically sensitive areas.

#### **4.3.6. Historic sites**

The conservation of historic sites will retain as much as practicable of the evidence of successive additions, alterations and uses. Proposals to remove or modify later evidence in favour of highlighting earlier evidence will be subject to thorough documentation, justification and, where appropriate, community comment.

### **4.4. MANAGEMENT OF LANDSCAPE VALUES**

#### **SPECIFIC MANAGEMENT OBJECTIVES**

- to safeguard the visual character of the Corridor as a regional geographic and cultural entity;
- to explicitly recognise the valuable natural and cultural elements of the Corridor scenery;
- to identify which of the Corridor's visual resources are significant;
- to protect significant elements in the Corridor scenery from inappropriate change to ensure that these are not compromised or lost; and
- to minimise the visual intrusiveness of buildings, roads and utilities within the Corridor.

#### **4.4.1. Background**

The Corridor is part of the larger visual unit of the Murrumbidgee valley. The scenic values of the valley relate to both natural and cultural aspects of the landscape, and this section of the plan relates to management of the visual aspects of the Corridor.

#### **4.4.2. Management practices**

The impact of management practices on landscape values will include an assessment of the visual values which relate to abstract aesthetic criteria such as line, form, colour, harmony variety, and texture;

The impact of management practices on landscape values will include assessment of:

- ecological values which relate to the biological basis of landscape through diversity, retention of natural elements and habitat values; and
- cultural values in the landscape patterns we see, linked to our history and prehistory.

Protection of the visual surrounds of cultural sites is particularly important and will involve:

- the sympathetic design of associated recreation facilities;
- sensitive design and siting of access routes and interpretation facilities; and
- where appropriate the retention of exotic vegetation associated with the cultural development of the site. However some removal of exotic species will be required on the grounds of public safety or the potential for plant escape into surrounding native vegetation. Solitary trees which are the only marker of some earlier human settlement or activity will be treated as cultural sites.



## **5. MANAGEMENT OF VISITOR USE**

### **5.1. RECREATION**

#### **SPECIFIC MANAGEMENT OBJECTIVES**

- to contribute to the diversity of facilities and recreational opportunities available to residents and visitors of Canberra and Queanbeyan region;
- to minimise conflict between different recreation uses and users;
- to encourage recreation which is compatible with the other values of the Corridor, and to control incompatible use;
- to introduce a greater element of information and interpretation to Corridor recreation;
- to maintain site conditions and services that are appropriate to recreational opportunities; and
- to influence recreation choices so that the most appropriate sites are used.

#### **5.1.1. Background**

The Murrumbidgee River Corridor in the ACT has been popular with Canberrans and visitors for many years. Casuarina Sands has been popular since the 1920s for swimming and in 1962 a weir and beach area were constructed to provide a swimming area for up to 1000 people (NCDC 1990a). The popularity of the MRC has continued, but the distribution and nature of visitation has varied with urban development. The Corridor has become popular with anglers, rafters, bushwalkers, canoeists and cyclists.

The ACT segment of the Murrumbidgee has great recreational significance, due to:

- its proximity to urban Canberra;
- its natural and rural characteristics;
- water being important as a focal point for recreation;
- Canberra's distance from the coast; and
- the diversity of opportunities it provides, ranging from highly developed recreation settings to undeveloped natural areas offering solitude and respite from urban life.

## **5.2. MANAGEMENT CONSIDERATIONS**

### **5.2.1. Appropriate fees**

Consideration will be given to the introduction of charges and other user pays mechanisms when it is feasible and when it is consistent with other management objectives. Any user pays systems introduced will be consistent with management objectives and will not include entrance fees to areas of the river corridor.

### **5.2.2. Appropriate range of opportunities**

Recreation in the Corridor will contribute to the diversity of recreation opportunities in the ACT, rather than duplicate those available elsewhere. Provision of recreation in the Corridor will focus on those activities which are intrinsic to it and do not conflict with other management objectives.

### **5.2.3. Relationship with other recreation opportunities**

Current recreation demand trends indicate that a number of the Corridor's older sites, for example Casuarina Sands and the Cotter Reserve, have reached their usage peaks and are now experiencing a steady or declining number of visitors. Other sectors of the River, especially those in close proximity to the rapid urban development occurring in Tuggeranong and Gungahlin, are experiencing an increasing demand for recreational opportunities. One option for catering for this demand is to redirect it to other more resilient locations such as lakeside recreation areas and urban swimming pools. This does not mean that no further development should take place within the Corridor. However, it does suggest that any new development should only be contemplated when the Corridor is the most appropriate location.

The following considerations will be taken into account when planning and developing recreational opportunities along the Corridor:

- appropriate range of opportunities
- nature of recreational opportunities within the Corridor; and
- relationship with other recreational opportunities.

### **5.2.4. Management of recreation settings**

Management objectives, indicators, standards and monitoring programs have been developed for five classes of recreation management settings ranging from 'natural' to 'developed' (Tables 4 and 5).

**Table 4. Recreation management classes.**

<b>Class</b>	<b>Description</b>	<b>Location</b>
Recreation mgmt class 1	Applies in relatively natural areas with no vehicle access beyond public roads. Disturbance of natural setting to be minimised. Use levels to be kept low - principally small groups	All nature reserves except for specified sites. All Corridor land between points of vehicle access.
Recreation mgmt class 2	Predominantly natural areas although some modification possible. Vehicle access appropriate but roads generally unsealed. Facilities low-key, rustic and minimum impact.  Low levels of use, principally small groups.  Opportunities to relax in peaceful surroundings with minimal intrusion by other users..	Tharwa Sandwash  Angle Crossing  Gudgenby Crossing De Salis Cemetery and precincts  Proposed recreation area between Lanyon and Point Hut  Shepherds Lookout
Recreation mgmt class 3	Areas which provide a range of recreation opportunities in an undeveloped or rural setting. Facilities provided to enhance people's enjoyment of the natural setting without dominating it. Emphasis on use by families and small to medium-sized groups. Understanding of the environment promoted by low-key facilities on-site.	Kambah Pool  Uriarra Crossing  Cuppacumbalong  Tharwa Bridge
Recreation mgmt class 4	Recreation settings where natural features are present but do not constitute the principal focus of the recreational experience. Social activities and use by groups encouraged. Extensive facilities, consistent with objectives in section 4.2. Commercial facilities likely. Regular on-site management presence.	Point Hut Crossing  Pine Island  Casuarina Sands
Recreation mgmt class 5	Easily accessible areas where provision for recreation has modified (& now dominates) the natural environment. Extensive provision of facilities. Planting of specimen exotic trees. Commercial facilities likely. Intensive management. Use by large-scale groups appropriate.	Cotter Reserve  Cotter Campground

**Table 5. Indicators and standards for maintaining appropriate conditions at sites and areas in the prescribed recreation classes**

Note: the symbol '<' is to be read as 'less than'.

Indicator	Recreation Management Classes (see text)				
	1	2	3	4	5
Bare soil other than on tracks	Nil	< 5%	< 5%	< 10%	< 15%
Litter	Nil	Low	Low to medium	Medium	High
Number of cars at one time	90% < 5	90% < 25	90% < 100	75% < 200	60% < 200
Group size	90% < 6	75% < 6	90% < 10	80% < 10	80% < 20
Total daily use	90% < 100	90% < 300	90% < 1500	75% < 1500	60% < 1500

Table 5 provides a rapid means of determining acceptable site conditions and impacts in the MRC. For example:

In an area of recreation management Class 1 the following conditions and visitation will be evident. There will be no bare soil except on tracks. There will be no litter present. Ninety percent of the time there will be less than five cars. Ninety percent of the time groups will contain less than six people. Ninety percent of the time total daily visitation will be less than one hundred people.

### 5.3. ACTIVITIES

This section applies to the public use areas of the Corridor, including leased land where public use is permitted by the lessee. Use of leased Corridor lands by the lessees themselves (and their agents and employees) is outlined in section 8.

#### 5.3.1. General access and activities

The following specific management policies apply.

- Vehicle use will only be permitted on defined public roads. Public vehicle use of management tracks will not be permitted.
- Access to cultural sites may be restricted to safeguard their security. Their hours of opening may vary according to season, user demand and management constraints (see also section 11, Management of the Lanyon Landscape Conservation Reserve).
- Walking access is not permitted;
  - in leased areas, unless there is agreement between the Service and the lessee; and
  - where site protection or safety considerations dictate otherwise.
- Walking tracks will be designed to ensure that recreation pressures occur only at sites with capacity to handle them. Sensitive areas may be fenced out to avoid trampling.
- Horses will be permitted within leased areas, on public roads as a thoroughfare only and on management tracks which are approved for the purpose, but not on walking tracks, in recreation areas or in nature reserves.
- Access to the pine forests will be restricted during some forestry operations, days of total fire ban and hazardous weather.

- Parts of the Corridor may be closed to public use during floods, periods of extreme bushfire danger, hazardous management operations (such as poisoning or spraying) or to permit approved special activities to take place. Special activities are further discussed at section 8.1.
- Use of motor boats will not be permitted, except for essential management purposes.

Further details of access within the Lanyon Landscape Conservation Reserve are given in section 11.

### **5.3.2. Picnicking and use of cooking fires**

Picnics will be encouraged, especially at facilities provided for the purpose. Picnic sites will range from broad irrigated grassed spaces suitable for large family and social groups to small low-key bushland sites. Use of portable barbecues or other cooking appliances with naked flames will be confined to recreation areas and in accordance with the Bushfire Act.

Barbecue facilities are provided at sites in recreation management classes 3 to 5. However, the management costs for these are substantial and the Service is investigating the phasing out some of these facilities in the Corridor.

### **5.3.3. Swimming**

Swimming will be promoted only where there is appropriate river bank access and reasonably safe swimming conditions. The Service will continue to emphasise to visitors the hazards of swimming in a river with variable flow conditions, and which inevitably contains submerged rocks and snags. The Service may advise against swimming at times and places where it is unsafe, poses a public health risk or affects domestic use requirements.

Nude bathing and sunbaking is permitted only within a signposted area at Kambah Pool declared under the *Nudity Act 1976*. The Service will continue to provide signs and other advice to visitors.

### **5.3.4. Fishing**

The Murrumbidgee River is declared open waters where fishing is permitted all year round. However any trout caught outside of the trout season must be returned to the water. To develop a more accurate picture of recreational fishing and its impacts the Service will monitor: the species and size of catch; where, when and how it was caught; and the number and origins of the anglers involved. If the populations of native species show signs of decline, more stringent controls on fishing may be introduced (see section 4.1).

### **5.3.5. Camping**

Camping will be permitted only in official camping areas (currently only at the Cotter - see section 5.5). Camping outside these areas will not be permitted, unless it is for management purposes, because of the potentially unacceptable deterioration in both site and water quality caused by this activity. The recent *Campground Strategy for ACT Parks and Forests (1997)* has recommended that two additional sites within the Corridor be investigated as camping areas and that the Cotter campground be extended and upgraded. The Service will assess the feasibility of these proposals.

### **5.3.6. Adventure activities**

Canoeing, kayaking, and rafting are important recreation activities in the Corridor especially in times of white-water conditions. The Service will continue to emphasise the need for appropriate experience, leadership and equipment for safe recreational use of the River. All structures built in the river, e.g. river gauging stations or crossings, will be carefully designed to avoid any hazard to

canoeing, kayaking and rafting under all expected flow conditions. See also the provisions of section 9.5 regarding consultations with user groups on safety.

Activities such as abseiling, rock climbing or hang gliding may be appropriate in some parts of the Corridor. However, no special vehicle or other access will be permitted for such activities, except with permission of the Service or other managing agency. In addition, activities of this kind will be prohibited or carefully controlled at sites where they may affect sensitive landforms or native flora or fauna.

The principles and practices outlined in section 8.1 will be applied to commercial operations.

#### **5.3.7. Special events**

Events such as orienteering meets and car rallies will be accommodated only where they do not have unacceptable impacts on other Corridor values or conflict with general public use. Licence agreements will be used to manage these activities and will provide for requirements such as temporary road closure, exclusive site occupancy and public safety (see also section 8.1, Land occupancy and use agreements).

#### **5.3.8. Dogs**

Dogs are allowed at Uriarra Crossing, Point Hut Crossing and Shepherd's lookout. Off-lead exercise areas are sign posted at Uriarra and Point Hut Crossings. The Dog Control Act requires that dogs be kept under control at all times and must be kept at least ten metres from barbeques. This restriction does not apply to guide dogs or dogs used by police or customs for official duties, or dogs otherwise exempted under the Dog Control Act.

### **5.4. Access**

Access is one of the most important variables in recreation site management (see section 5.1). Demand for access to an area is determined by a number of factors including its proximity to residential and commercial areas, and its recreational natural and cultural attractions. All new developments will consider access for people with disabilities.

Horse riding is permitted in leased areas (with lessee permission), on public roads as a thoroughfare only and on the Bicentennial National Trail. Cycle touring is permitted on public roads and approved management tracks.

Access to certain areas or the use of certain roads, tracks or trails may be restricted either permanently or temporarily for specific management objectives or activities.

Access through leased areas to the River is discussed at section 8.1.3.

#### **5.4.1. Road access**

The existing public vehicle access network is listed at Appendix 1.

Additional vehicular access will not be provided unless such access is specified in the National Capital Plan, Territory Plan or any precinct plan produced for cultural sites. For example, the National Capital Plan (1990) provides for future access into Woodstock Nature Reserve off Stockdill Drive in West Belconnen, and for a new river crossing, if required, 200 metres upstream of the Tharwa bridge.

The various management tracks will not be available for public vehicle use, but designated tracks will continue to be available for incidental use by cyclists, walkers or visitors on horseback.

#### **5.4.2. Walking tracks**

Walking tracks overlooking the River have now been developed on the east bank, linking Point Hut to Pine Island, Pine Island to Kambah Pool (via Red Rocks Gorge), Kambah Pool to Casuarina Sands, and Shepherds Lookout to Uriarra Crossing. There is also a network of walking tracks in the Cotter Reserve. Longer distance tracks will be located back from the River and away from sensitive cultural and ecological sites. The Service does not intend to have a continuous walking track traversing the length of the Murrumbidgee in the ACT.

The design of future walking tracks will reflect the recreation opportunities and management objectives of the areas of the corridor in which they will be built. Wherever practical, the service will avoid building walking tracks on leased land and in areas where significant numbers of walkers may disturb stock. The service will consult with lessees where these situations can not be avoided. Walkers will not be permitted to take dogs with them except where exemptions under the Dog Control Act apply or where the dog is a guide dog or dog being used by police or customs for official duties.

Walking tracks may be closed for management purposes, such as repair or during the breeding season of species susceptible to disturbance. In leased areas and in areas where heritage values may be impacted, walking will be confined to tracks.

### **5.5. FACILITIES AND SERVICES**

The Territory Plan outlines visitor facilities within the Corridor that may include:

- a hotel and restaurants;
- souvenir shops and galleries;
- kiosks;
- toilet facilities at most vehicle-based sites;
- swimming areas, sometimes with modifications to the River (e.g. Cotter Reserve);
- mown grass areas;
- barbecues (wood, gas or electric),; picnic tables;
- picnic shelters;
- emergency phones;
- Cotter campground; and
- playground equipment.

Facilities at recreation sites will reflect the guidelines for their recreation management class. For sites where visitor numbers increase beyond the levels acceptable to their recreation management classification, the Service will encourage visitors to use alternative sites. Parking area capacity will be restricted to reflect acceptable visitor numbers. Information will be accessible to publicise alternative recreation areas.

## **6. INTERPRETATION AND EDUCATION**

### **SPECIFIC MANAGEMENT OBJECTIVES**

- to promote an awareness of the resources, values, appropriate uses and management of the Corridor;
- to encourage public participation in resolving environmental issues affecting the Corridor;
- to promote an appreciation and understanding of the significance of the Corridor's natural, cultural and heritage features, and of the consequences of various uses;
- to provide educational opportunities in relation to the Corridors natural and cultural resources ;
- to influence recreation choice so that people use the sites in the region which are most suited to their activity, and to promote responsible behaviour among Corridor visitors ;and.
- to present appropriate sites for interpretation and applicable educational opportunities

### **6.1. PURPOSE**

Interpretation and education programs for the Corridor serve several important purposes, including:

- Resource interpretation;
- Environmental education;
- Public relations; and
- Notification about management proposals and programs

### **6.2. MANAGEMENT PRACTICES**

The Service will consult environmental education authorities, community interest groups and adjoining land users to ensure that programs are relevant to educational programs and other community activities.

Programs will provide on-site activities as well as off-site promotion and information and activities will focus on existing recreation sites.

Opportunities for interpretation include:

- displays in appropriate locations;
- inclusion of Corridor themes in the Namadgi National Park visitor centre just south of Tharwa;
- thematic leaflets and maps explaining the significance of features, opportunities and constraints in particular parts of the Corridor;
- seasonal programs in times of peak visitor use; and



- information shelters, exhibits, signs or posts.

The perceptions, expectations and needs of visitors and the community will be an important factor in the Service's choice of interpretation programs.

### **6.3. VOLUNTEER ACTIVITIES**

The volunteer participation program aims to develop, co-ordinate, promote and evaluate activities to revegetate, and rehabilitate areas managed by the service.

All volunteer programs are conducted with the support and supervision of service staff. Activities include; weed control, seed collection from local native plant species, litter removal, field survey and mapping, soil conservation work, walking track maintenance.

## **7. RESOURCE PROTECTION**

### **7.1. EROSION CONTROL AND REHABILITATION**

#### **SPECIFIC MANAGEMENT OBJECTIVES**

- to minimise bank erosion and stream sedimentation;
- to rehabilitate eroding sites;
- to remove grazing from unstable stream banks;
- to ensure that all access, facilities and other developments are designed and maintained to minimise erosion; and
- to revegetate disturbed areas with a stabilising cover of vegetation, the composition, structure and appearance of which is appropriate to other conservation, landscape and recreation objectives.

#### **7.1.1. Background**

Much of the sediment load of the Murrumbidgee and its tributaries within the ACT is a result of land management practices occurring outside the Corridor's boundaries. Within the Corridor the Service will adopt land management practices that minimise soil disturbance. This will involve the revegetation and stabilisation of those areas susceptible to erosion. These include recreation development areas, grazing lands and pine harvesting areas and areas subject to the initial stages of rehabilitation. River channel changes and erosion of stream deposits are considered to be natural erosion processes and will not be interrupted unless they result directly from unnatural local circumstances such as the colonisation of the river channel by exotic plant species, e.g. willows.

#### **7.1.2. Management practices**

Any works in the Corridor that may cause soil disturbance will need to:

- minimise the extent and severity of disturbance;
- re-establish cover on the soil surface as quickly as possible following any disturbance;
- trap silt mobilised in runoff; and
- ensure that the species used for stabilisation are either appropriate native plants or exotic species which are not liable to invade surrounding ecosystems.

#### **7.1.3. Nature reserves and vegetation restoration areas**

Soil conservation efforts will focus on the Corridor's nature reserves and those areas degraded by grazing and clearing. The selection of species for planting in these restoration areas will depend on the management objectives for them, but where possible will be of local origin. Any such plantings will be protected from stock and designed to minimise run off.

#### **7.1.4. Grazing areas**

The Service will negotiate with lessees under the guidelines in section 10.1 in regard to

- withdrawing grazing from unstable and eroding river banks;
- implementing any erosion control measures;

#### **7.1.5. Urban erosion and sediment controls**

Apart from Tharwa, there are no urban areas in the Corridor. However, the Service will liaise with other relevant agencies to ensure that the potential impacts of urban development outside the Corridor at Tharwa are minimised through the adoption of appropriate erosion or sediment controls.

#### **7.1.6. Urban sewage discharge controls**

The *Water Pollution Act 1984*, administered by the Office of the Environment, provides controls over the discharge of sewage effluent. In consultation with the Office of the Environment, the Service will ensure that pollution of the Murrumbidgee River is minimised.

## **7.2. CONTROL OF PEST PLANTS AND ANIMALS**

### **SPECIFIC MANAGEMENT OBJECTIVES**

- to minimise the adverse impacts of existing introduced species;
- to co-operate with Corridor lessees and adjacent landholders in carrying out joint control programs in conjunction with Landcare groups;
- to minimise both the introduction of new species and the spread of established species;
- to use control measures which are appropriate to an area receiving high visitor usage; and
- to increase staff and public awareness of the pest plants and animals and their impacts.

#### **7.2.1. Background**

The Corridor is particularly susceptible to pest invasion because of the degree of both 'natural' and human-related disturbance. Much of the Corridor is now considered to be a modified environment.

The terrestrial vertebrate pests of most concern in the Corridor are the rabbit, the wild pig and wild goats, feral cats and the European fox. Roaming domestic dogs are also a problem, especially when they attack domestic grazing animals and native wildlife in the rural areas.

Seven species of exotic fish are found in the waters of the Corridor and discarded aquarium species are a major potential source of new exotic fish, as has been demonstrated by the establishment of the oriental weatherloach. The use by anglers of exotic fish species as bait is also a major potential source of new exotic fish (Lintermans 1993) and is being addressed in the review of the Fishing Act..

It is estimated that there are 100 to 150 weed species in the Corridor. Exotic aquatic plants may also become established in the River and wetlands. The ACT Weeds Strategy will be implemented and integrated with rehabilitation where necessary.

It is unlikely that any pest species once established can be eradicated from the Corridor and priority will be given to monitoring and controlling selected high priority species and infestations in sites of high conservation or recreational value.

### **7.2.2. Management Practices**

Pest control programs will be subject to the other provisions of this plan, including those relating to rehabilitation (section 7.1), environmental protection (section 9.1) and public and industrial safety (section 9.5).

#### ***Location or area priorities:***

- areas of high conservation value, for example rare plant sites, relatively undisturbed native vegetation communities, important wildlife habitat, Aboriginal sites or other cultural sites;
- areas of high recreation value where weeds may restrict movement or significantly reduce visual values;
- areas where native species planting programs are being carried out, to allow the maximum establishment and growth of native species; and
- all other sites and areas.

#### ***Priority weed species:***

- species which are able to colonise undisturbed vegetation communities (e.g. Monterey pine);
- species known to block the river channel by colonising the river banks or forming islands, particularly willows;
- species which have quickly become serious problem weeds in other areas with similar environmental conditions, and thus have potential to become problem weeds in the Corridor (e.g. broom); and
- species for which control programs are likely to substantially reduce the existing populations (for example, those species occurring over small concentrated areas and which are easily recognisable by field staff) and
- species which are known to be detrimental to agricultural productivity or the health of livestock on adjacent land.

#### ***Priority pest animals:***

- non-native species which prey on native fauna;
- non-native species which degrade land by trampling, digging, browsing or grazing, especially where this prevents or slows land rehabilitation programs;
- species which prey on grazing stock; and
- species for which control programs are likely to substantially reduce the existing populations.

In addition to the above priorities (based on species and location), the following considerations will influence specific priorities:

- whether the species has priority in control programs in adjacent areas; and
- impacts of control methods on other objectives.

### 7.2.3. Control programs

Control programs will incorporate the following strategies:

- minimising disturbance to existing ecological communities;
- increasing the stability of existing vegetation by rehabilitation and revegetation programs;
- checking the materials used for revegetation and construction activities for weed seed contamination, by inspecting the site once work is completed, or by inspecting the sites from which materials were taken;
- using a mix of vegetation forms (trees, shrubs, grasses) of appropriate local native species for revegetation;
- restricting the off-road use of vehicles and heavy machinery wherever possible, to prevent inadvertent seed transfer;
- undertaking the washing down of vehicles and machinery to reduce weed spread and invasion; and
- surveying adjacent land for weed species not currently occurring in the Corridor and encouraging leaseholders and managers to control these species.

The public will be informed of any control programs which may affect visitors.

The species which have high priority are:

#### *Weeds*

- *Exotic conifers*. Seedlings of exotic conifers, dispersing mainly by wind from the extensive pine plantations within and adjacent to the Corridor, are particularly common between Kambah Pool and Uriarra Crossing. The main species is Monterey pine. These trees have been found next to rare plant sites and among native vegetation communities of high conservation value, and because of their different shape and colour often have a significant visual impact on the landscape.

An intensive initial control program, followed by monitoring and follow-up removal, will be needed to keep wilding pines under control outside the plantations. Felling before trees reach reproductive age is the most effective control measure. Nature reserves (see section 12) will be first priority as will the careful removal of pines where *Pomaderris pallida* occurs near New Station Creek.

- *Willows*. The riparian vegetation communities have been significantly effected by the introduction and spread of three species of willow which has altered animal habitat and river hydraulic characteristics, impeded recreational use of river banks and introduced visually intrusive contrasts to bushland. Because of these impacts the Service will undertake the removal of willows except where they are a recorded part of an historic landscape. In areas where willows are the main providers of shade and shelter, this removal will be phased to coincide with the establishment of appropriate native species.

#### 7.2.4. Use of chemicals

Use of chemicals will be subject to the following:

- public health, especially with regard to the potential contamination of domestic water supply and water for contact recreation;
- protection of aquatic ecosystems;
- occupational health and safety for management personnel;
- visitor safety (e.g. blackberry picking);
- possible residual or non-target effects; and
- availability of feasible alternatives.

### 7.3. FIRE MANAGEMENT

#### SPECIFIC MANAGEMENT OBJECTIVES

- to protect of life and property;
- to minimise the impacts of hazard reduction and fire suppression activities;
- to protect natural and cultural heritage through the use of ecological burns;
- to protect the natural and cultural features of the Corridor from damage by fire; and
- to protect soil stability and ground cover.

#### 7.3.1. Background

The frequency of bushfire in the Corridor has been increased by its proximity to urban development and the large areas of introduced grasses in areas which have been cleared or are now grazed. The Service recognises that the Corridor has a large number of land uses that are vulnerable to bushfire, including intensively used recreation areas, and leased rural lands. This must be balanced by ensuring that hazard reduction and fire suppression do not affect the valuable natural and cultural features in the Corridor such as remnant stands of black cypress.

The Service will continue to liaise with the ACT Bushfire Service regarding fire protection and suppression activities within the Corridor as required under the Bushfire Act 1936,. Under the *Bushfire Act 1936*, the ACT Bush Fire Council exercises legal authority for fire control and suppression throughout the Territory. Service field staff, plant and equipment (including those normally allocated to Corridor management)\*are part of the ACT's fire control systems co-ordinated by the Bushfire Service. The Service will also consult with the Office of the Environment, which administers the *Air Pollution Act 1984*, to ensure air pollution is minimised when control burning.

### **7.3.2 Hazard monitoring**

Fire management within the Corridor will be based on systematic, objective evaluation of fire hazards and fuel dynamics and the effects of management interventions. Fire management strategies will be based on:

- monitoring fuel levels and fuel availability;
- the location of sensitive installations or sites; and
- slope, terrain and other physical influences on fire spread and control accessibility.

### **7.3.3 Fire management planning**

The Service will continue to manage bushfire fuels and will prepare bushfire fuel management plans as required by the Bushfire Act 1936. Detailed prescriptions for fire protection and strategies for fire control will be developed in consultation with the ACT Bushfire Service and documented as area-based bushfire fuel management plans (see Table 1) applicable to the Corridor (and possibly applicable to other contiguous areas as well).

### **7.3.4 Annual control preparedness**

Response systems for fire suppression will be documented in the existing system of annual fire action plans, which includes provisions for:

- public safety, including the provision to close roads and recreation areas during periods of very high or extreme fire danger;
- fire suppression co-ordination; and
- deployment of fire control resources.

### **7.3.5 Hazard reduction**

Mechanical methods (e.g. slashing) will be preferred around recreation sites, buildings and other installations, and on the perimeter of grazing lands. If assessment of fire hazards indicates that broad-scale fuel reduction is desirable and attainable, prescription burning may be used, subject to protection of valuable natural and cultural sites, and to appropriate air pollution and water pollution considerations. Similar deliberate burning may also be necessary on occasion to maintain native grassland communities. Grazing by domestic stock may also be used to reduce grass fuel levels, subject to habitat protection and other requirements.

### **7.3.6 Access and firebreaks**

Access in times of fire will be along management tracks, and where possible from adjoining rural areas. The Service will negotiate with lessees regarding the protocols to be followed when such access is necessary.

## **8. MANAGEMENT OF AUTHORISED ACTIVITIES**

### **8.1. LAND OCCUPANCY AND USE AGREEMENTS**

#### **SPECIFIC MANAGEMENT OBJECTIVES**

- to promote appropriate cultural landscapes and living rural traditions within the Corridor as specified in the Territory Plan;
- to provide for the productive use and maintenance of rural lands within the Corridor;
- to protect lease-holders' quiet enjoyment of their agreed entitlements without disturbance, while also providing for any appropriate public use of identified sites, areas and routes within or accessible from the land concerned;
- to provide for occupation of Corridor sites by community groups for appropriate activities, or for purposes ancillary to the licensed use of surrounding land;
- to provide for commercial participation in the provision of appropriate visitor services; and
- to control certain activities which licensees or others may undertake within Corridor lands.

#### **8.1.1. Background**

This section applies to leases, licences, agistment and other agreements pertaining to the occupancy or use of land within the Corridor. Provided it is consistent with this plan, the Service may enter into agreements with private sector and community interests for the following uses of land within the Corridor:

- rural leases, including short-term grazing agreements;
- special-purpose leases for community facilities such as youth camps;
- commercial enterprises to cater for the needs of visitors, e.g. retail outlets;
- group or special activities, such as sporting events and film making;
- the activities of commercial tour operators; and
- the activities of volunteers wishing to assist in park management.

#### **8.1.2. Management practices**

Existing leases may confer entitlements on lessees which conflict with this plan, and these will not be superseded by this plan. However, in future the Service will automatically incorporate the provisions of the plan into any new or re negotiated agreements. This will be carried out through the Property Management Agreement process.



Agreements for use or occupation of land within the Corridor may include:

- responsibilities for land protection, including weed and pest control, and waste management;
- permitted agricultural activities, including the diversion of water for agricultural purposes such as irrigation or watering stock;
- designated public use areas and access to them;
- the protection of significant natural and cultural heritage sites;
- the protection of the environment in terms of air and water quality;
- the skills of the proponent to undertake the activity, including consideration of public safety and appropriate fee structures;
- specification of permitted activities; and
- the protection of remnant native vegetation.

### 8.1.3. Rural leases

Many areas within the Corridor will continue to be grazed because management objectives require the retention of a rural landscape. Such grazing land will be managed under lease or similar agreement. Areas for which leasehold arrangements are not in effect or inappropriate may be grazed under agistment licence. The Service will liaise with existing lessees, and with the rural community generally, to secure the most flexible, equitable and economically viable arrangements consistent with this plan. The following arrangements will apply. It is the intention of the Service to progressively remove grazing from the river bank and selected creek tributaries in the interests of bank stabilisation and water quality. However, subject to their acceptance by government, proposals being developed by the Rural Policy Taskforce will have significant implications for the management of the Corridor.

*Leased areas:* Current policy is that new and re-negotiated leases will explicitly define the respective roles of the Government and lessees regarding the protection of water quality, landscape integrity and natural and cultural heritage features of the property. Provided there is agreement from both parties, leases may also define formal rights of way through leased lands for public access to the River.

*Revegetation areas.* Grazing will only be permitted in these areas if specified in a current lease or agistment agreement. When these leases are due for renewal, the continuation of grazing will be reviewed in terms of the preferred land use for the area. Where grazing is to continue, stocking rates and boundaries may be modified to enhance the revegetation process. In future these conditions may become part of Property Management Agreements.

*Nature conservation areas.* In those gazetted nature reserves which include pastoral lands, grazing will be permitted either for the duration of the current lease or where it can be demonstrated it does not effect nature conservation values. Short-term agistment may be permitted in these areas for management purposes such as bushfire fuel reduction.

*Recreation areas.* Developed recreation sites (see table 4) will not be leased for grazing, unless it is for short-term agistment for management purposes. Grazing will be removed progressively from the river bank (and selected creek tributaries) in the interests of bank stabilisation, nature conservation and recreational access. Priority will be given to those areas most susceptible to stock damage, e.g. alluvial river flats. Short-term agistment for pre-determined management purposes such as fire hazard reduction or plantation management is not precluded.

There may be a case for rationalisation of rural holdings and boundaries in some areas in order to:

- maintain a viable rural enterprise in the longer term;
- allow the introduction of short-term grazing operations for specific management requirements such as removing pasture competing with plantation establishment, seasonal management of fire hazard;
- cease or reduce rural operations to achieve other management objectives, such as soil stabilisation, revegetation and habitat enhancement;
- withdraw areas from grazing for urban development; and
- establish a more practical management boundary for the Corridor.

The Service will ensure that fencing is adequate to prevent stock roaming between the Corridor and adjacent grazing areas. It will follow as closely as possible the Corridor's boundaries except in areas where the grazing land extends into the Corridor. Where necessary, the boundary will be surveyed so that managers and lessees are sure of its position.

#### **8.1.4. Special purpose leases**

Special-purpose leases are occupancy rights issued to community organisations for a specific purpose. Existing leases of this type in the Corridor include those held by the YMCA. Where necessary the Service will negotiate with these organisations concerning matters not covered in their original lease agreements, particularly public access to the River and the protection of cultural heritage sites. This may involve mutual agreement to rationalise lease boundaries.

The approved activities for which a special lease is granted will be confined to the lease area. Elsewhere in the Corridor, lease occupants will be bound by general visitor use guidelines.

#### **8.1.5. Special activities**

Special activities are those not included in the general visitor use guidelines and which may have a significant environmental impact, such as car rallies, large social events involving the erection of specific structures or exclusive site occupancy, and commercial film making. Specific permission from the Service will be required for such activities and will be dependent on an assessment of their potential impact on Corridor values.

Authorisations will include conditions to protect Corridor values, minimise conflict with other visitors, and for special requirements such as public insurance, portable toilets, garbage facilities and post-event cleanup. Participants in such events will not receive preferential treatment, and will be subject to the same conditions as any other visitor to the Corridor. Minor concessions may be made to event organisers who require access not usually available to the public.

Permission will be required from the Service for any commercial photography or filming within the Corridor, except that associated with news events. Proponents will need to provide the Service with details of the content and location of the filming and any activities associated with it.

The activities of groups operating in leased areas with lessee permission will be governed primarily by lease conditions or under agreements between the Service and the lessee.

#### **8.1.6. Park concessions**

For the purposes of this management plan, a park concession is a right granted by way of a lease, licence or permit for the occupation or use of a part of the Corridor to provide appropriate facilities and services for visitors' use and enjoyment consistent with management objectives. This right may

be subject to payment of a fee but other services may be provided in lieu of a fee (e.g. restoration or rehabilitation work).

Concessions may typically include:

- conducted tours, adventure trips and training courses;
- retail outlets, hawkers, hire facilities, commercial entertainment;
- film making for the purpose of promoting the natural or cultural values of the Corridor;
- special recreation or other events; or
- the sale, hire or provision of supplies and services.

Where the concession's focus is educational and supports the Service's promotion of greater public understanding and appreciation of environmental conservation, favourable treatment may be considered. Photography and filming sensitive to the management objectives for the Corridor will be treated as a park concession rather than a special activity.

Tour operators will have to hold a concession licence from the Service. This licence may specify the constraints on activity, group numbers, and areas to be used, as well as detailing public indemnity requirements and other measures as deemed appropriate by the Service.

A licence may be granted if the Service is satisfied that:

- there is no or minimal environmental impact from the proposed activities;
- the operator is competent to undertake the activity involved;
- the activities concerned are consistent with the management objectives for the Corridor and sympathetic to the site;
- there is adequate provision for the safety and insurance of all persons;
- the operation will contribute significantly to management objectives for visitor use of the Corridor; and
- the concession does not conflict with others or intrude on other visitors' experience.

Tour operators will not be permitted to use management tracks nor have exclusive use of visitor facilities.

Existing commercial arrangements will continue at the Cotter, Lanyon and Cuppacumbalong. The precinct plans for Lanyon and Lambrigg (see section 11) may allow for appropriate new or rationalised commercial services. Commercial concessions will be reviewed periodically to assess their appropriateness and environmental impacts.

The development and application of a park concession licensing system will be guided by the ACT Parks and Conservation Service's policies and procedures, which will be developed in consultation with community groups and tour operators.

#### **8.1.7. Sponsorships and community participation in management**

Community and corporate involvement in managing the Corridor will be encouraged by the Service. This may take a variety of forms including Park Care volunteer groups and sponsorship. Such involvement must be consistent with this plan and will be acknowledged by the Service in appropriate ways. However, the Service is reluctant to extend such recognition to include the erection of advertising bill-boards, plaques or memorials, although it will consider proposals for the official naming of public places in accordance with the *Public Place Names Act 1989*.

## 8.2. UTILITIES AND SERVICES

### SPECIFIC MANAGEMENT OBJECTIVES

- to minimise any adverse effects on Corridor values resulting from utility installations or service operations;
- to co-ordinate the operational requirements of utilities with the other management programs;
- to aid the legitimate operation of utilities and services; and
- to maintain liaison between the Service and other authorities with operational responsibilities in the Corridor.

#### 8.2.1. Background

Because of its proximity to Canberra and Queanbeyan, the Corridor contains infrastructure for water supply, sewerage, stormwater, electricity and telecommunications. The relevant utilities and monitoring agencies for these include:

- *ACT Electricity and Water Corporation* - supply of electricity and water, sewage treatment and disposal, water flow monitoring stations;
- *Telstra Australia and Optus* - telecommunication services;
- *Australian Federal Police* - policing services, search and rescue;
- *ACT Public and Environmental Health Service* - monitoring and application of public health standards;
- *ACT Office of the Environment* - monitoring and application of pollution controls and water quality monitoring;
- *ACT Emergency Management Group* - fire protection and control and emergency phones;
- *ACT City Services - Traffic and Roads Section* - public roads maintenance; and
- *ACT City Services - Stormwater Section*: Point Hut Pond operation and maintenance.

#### 8.2.2. Management practices

The Service will liaise closely with all utilities operating in the Corridor, and seek to negotiate management agreements with them, which will include:

- a precise description of facilities, works, operations and access routes covered by the agreement;
- conditions for clearing vegetation and applying chemicals such as herbicides;
- requirements for soil conservation and rehabilitation works;
- protection of natural and cultural heritage sites;
- requirement for all staff, contractors and subcontractors to comply with this plan and relevant legislation such as the *Nature Conservation Act 1980*;

- responsibility for removal of equipment and installations which may no longer be required; and
- management procedures for continuing liaison and co-ordination of management operations.

Construction of any new utilities or service facilities will be subject to the provisions of:

- the National Capital Plan, the Territory Plan and this Management Plan;
- the *Australian Heritage Commission Act 1975* for Commonwealth proposals (as the entire Corridor is entered on the Register of the National Estate;
- the *Environment Protection (Impact of Proposals) Act 1974* for Commonwealth proposals;
- the *Public Health Act 1928*;
- environmental protection legislation notably the *Water Pollution Act 1984* and the *Air Pollution Act 1984*;
- the *Land (Planning and Environment) Act 1991*; and
- written agreement between the Service and the utility operator covering the matters outlined in this plan.

Decisions about new or modified utilities will be based on the following criteria:

- that there is no prudent or feasible alternative to its location within the Corridor;
- that impacts on the landscape, natural and cultural environment and recreation opportunities, both within the Corridor and elsewhere, are minimised, and that a decision on the project is based on an appropriate documentation and evaluation of such impacts, and of alternatives;
- that impacts on public health are considered and minimised;
- that sites of natural or cultural significance are not compromised, and disturbance to natural habitat areas is minimised;
- that existing utility easements, locations or routes are used as far as possible;
- that soil cover and water quality will be protected during construction, and that long-term land rehabilitation and management is provided for; and
- that maintenance has been considered.

A lease for the Lower Molongolo Water Quality Control Centre is currently being negotiated. The lease will include provisions for land management which will override this Plan. Until a lease is issued the provisions of this plan will apply.

### **8.3. MANAGEMENT POLICIES ON NON-PARK USES AND ACTIVITIES**

In this section, 'non-park uses and activities' refers to anything which is not consistent with the primary management objectives of the Corridor and includes activities such as sand and gravel mining and the felling of native timber, and unacceptable activities such as hunting and land clearance.

#### **8.3.1. Water use from the River**

Tharwa village is dependent upon the Murrumbidgee for part of its supply of domestic water as are many rural properties in the Corridor, which also use the Murrumbidgee for watering their stock. Total extraction from the river is estimated at about 120 000 litres daily. Unless alternative sources of water become available this consumption of water from the river is expected to continue and the Service permits access to pumping sites by lessees for essential maintenance.

Water quality, aquatic plants and animals and recreation are all dependent on river flow and pumping from the river for irrigation will impact on their requirements. All diversions for domestic use, stock watering or irrigation should be approved by the ACT Government Service and the development of legislation are being reviewed.

### **8.3.2. Quarrying, sand and gravel extraction**

The extraction of sand and gravel from the Murrumbidgee River will not be permitted except for habitat management and operational maintenance purposes. It is likely that the Service will have to undertake rehabilitation of sites where earlier extraction has taken place.

### **8.3.3. Clearing, cutting of timber**

Felling or clearing of native trees will only be permitted for reasons of public safety, maintenance of existing infrastructure and utilities, the development of new recreation areas and utilities and river bank management. A general exemption provided for in the Nature Conservation Act allows some lessees to fell native timber for use on their lease.

### **8.3.4. Firewood**

Collection of firewood will only be permitted from designated areas of pine forests and hardwood woodlots and by any lessee who is resident on their lease. The Service currently provides firewood for use in official fire places in the Corridor's recreation areas. The supply of wood and the use of Government supplied barbecues is to be reviewed due to the difficulty in obtaining firewood and operational costs.

### **8.3.5. Beekeeping**

Despite the presence of hives of European bees on land adjacent to the Corridor, such hives cannot be kept in the Corridor except where specified in existing rural lease agreements. This is because of the adverse effects these insects may have on endemic insect communities and native vegetation.

### **8.3.6. Movement of stock**

Droving stock between holdings will be permitted along public roads and, with the Service's approval, along management tracks. Horses and dogs will continue to be used for stock management operations on leased areas, and for moving stock through other parts of the Corridor.

### **8.3.7. Hunting**

Hunting, other than fishing, is prohibited within the ACT by the provisions of various legislation, including the Nature Conservation Act, the Animal Welfare Act and the Weapons Act. Shooting feral animals may be undertaken for control purposes by management personnel and lessees within their leases, subject to the provisions of the Weapons Act.

### **8.3.8. Domestic pets**

Visitors will be permitted to take dogs only to the recreation areas at Point Hut and Uriarra Crossings and at Shepherd's Lookout. The provisions of the Dog Control Act require dogs to be kept under control at all times and to be kept at least 10 metres from a barbeque.

Domestic pets will not be permitted within the Corridor other than at residences and where dogs and horses are used by lessees to work their properties. This restriction does not apply to dogs kept in vehicles, which do not intend stopping, travelling through the Corridor. Dogs found straying in the Corridor, especially on leased rural lands, may be impounded or destroyed either by the Service or the lessee. Stray domestic cats will be considered feral and will also be destroyed.

None of the above restrictions apply to guide dogs or dogs being used by police or customs for official duties.

### **8.3.9. Disturbance**

Disturbance of natural and cultural sites will not be condoned by the Service unless it is for genuine and beneficial purposes such as research or study. Any such disturbance, including taking, killing, picking, and excavating, will require a permit from the Service before it can be undertaken.

## 9. MANAGEMENT SYSTEMS

### 9.1. ENVIRONMENTAL PLANNING AND PROTECTION

#### SPECIFIC MANAGEMENT OBJECTIVES

- to protect and maintain the natural and cultural resources of the Corridor and its recreational opportunities;
- to avoid unnecessary environmental disturbance;
- to minimise the environmental impacts of any justifiable developments, works or other operations; and
- to ensure that all developments and operations occurring within the Corridor are consistent with the Management Plan.

#### 9.1.1. Management practices

Development and works proposals are subject to the provisions of the *Land (Planning and Environment) Act 1991*.

The Territory Plan specifies permitted land uses, controls on activities and special conditions for environmental protection. The Plan specifies that mandatory preliminary assessment may be required for either major utility installations or roads in River Corridors. Mandatory preliminary assessments can also be required in River Corridors under Appendix II of the Territory Plan for other matters such as variations to the Plan, construction of buildings and developments that require assessment regardless of their location.

The environmental impact assessment process in the ACT is used to determine whether the impacts on the environment of any proposal have been adequately addressed before a decision to proceed is made, and defines controls to be placed on the development. These controls can take the form of lease and development conditions, and design and siting requirements. Other environment protection legislation such as the *Water Pollution Act 1984* can also influence what controls are placed on the development.

#### *Leases and licences*

The Land Act provides for the Conservator to have responsibility for leases and licences for facilities or activities on Public Lands. Leases and licences identify area/activity, document special conditions and identify responsibilities for matters such as access, fencing and appropriate activities within and impacts beyond the lease or licence boundary. Leases may require land management plans (e.g. Property Management Agreements) and licences may be accompanied by detailed conditions about site management or use.

Proposed works that do not invoke the assessment procedures under the Land Act will be preceded by a simply documented assessment by the Service. This assessment covers matters such as consultation and approvals required, ecological and geological/geomorphological impacts, cultural heritage impacts, landscape impacts, recreation impacts, functional impacts and fire management. Proposals may be modified if necessary. Activities that follow agreed standards as set out in management policies recognised by this Management Plan will not require such assessment.



## **9.2. RESEARCH**

### **SPECIFIC MANAGEMENT OBJECTIVES**

- to provide an information base about the physical, biological, cultural and visitor use characteristics of the Corridor;
- to promote understanding of the nature and dynamics of Corridor systems;
- to focus research effort onto high priority management problems; and
- to promote efficient and prompt transfer of research results into management practice.

#### **9.2.1. Management practices**

All monitoring and research activities within the Corridor will require written approval from the Service, and where applicable the proponents will be required to apply for the necessary statutory permits under the *Nature Conservation Act 1980*. The Service will encourage researchers to investigate issues that are of direct relevance to the management of the Corridor, and if resources permit may assist the research effort.

All research activities will be subject to an approval process and will be required to cover all management, monitoring and rehabilitation costs of the research. A comprehensive record of surveying and research activities will be kept.

## **9.3. MANAGEMENT ACCESS AND FACILITIES**

### **SPECIFIC MANAGEMENT OBJECTIVES**

- to minimise the impacts on the Corridor from management infrastructure; and
- to co-ordinate the efficient provision of management facilities, plant and equipment and services across the Corridor.

#### **9.3.1 Management access**

A limited number of strategic management tracks will be maintained within the Corridor. Relatively unrestricted vehicle access will also be available for rural and management purposes within most of the rural areas. Tracks may be constructed and maintained for the following purposes:

- bush fire control;
- to maintain utility easements;
- to service utility installations;
- access to river gauging installations;
- to service visitor use facilities; and
- to provide access for regular management operations, such as mowing, weed control or plantation silviculture.

Vehicle use of the management track system will be kept to a minimum. Wherever an existing track or fire break is subject to erosion, or is no longer required, it will be closed and rehabilitated. Any

proposal to provide new or rationalised vehicle access for management or utility purposes will be subject to the provisions of section 9.1.

### **9.3.2 Base for management operations**

The main base for the Corridor's field staff will be the depot at Casuarina Sands. Additional offices may be built elsewhere to provide operational bases for field staff working in other parts of the Corridor. Appropriate security compounds and storage sheds may be located in unobtrusive locations at or near the major recreation areas in the Corridor.

### **9.3.3 Services at recreation sites and at management and utility installations**

Water supply to recreational sites for drinking, ablution and grass irrigation is currently drawn from either town water or from the river or runoff control ponds. These last two sources of water will be investigated in the design of future irrigation schemes.

Many toilet facilities are close to the river and careful attention will be given to their design and maintenance to ensure contamination of the river does not occur, particularly in times of flood. Infrastructure for recreation sites and utilities will be carefully designed and located to minimise their environmental impact.

### **9.3.4 Staff accommodation**

Most of the Corridor's staff live in Canberra as the Service has only a small number of staff residences within the Corridor. The Service intends to keep and maintain these residences and to encourage Corridor staff to live in them as a means of providing a caretaker presence at facilities.

## **9.4. WASTE MANAGEMENT**

### **SPECIFIC MANAGEMENT OBJECTIVES**

- to encourage visitors to take responsibility for their own waste;
- to avoid the accumulation or dumping of wastes within the Corridor;
- to minimise the generation of wastes within the Corridor; and
- to promote recycling.

#### **9.4.1. Management practices**

High use recreation areas have serviced rubbish bins, and the Service will investigate the feasibility of introducing recycling facilities to these areas. At low use recreation areas visitors will be expected to take their rubbish away with them. Ultimately the Service aims to encourage every visitor to the Corridor to take their rubbish home.

In the meantime all rubbish collected in the Corridor will be taken to the landfill sites. Horticultural waste will either be used as mulch or compost or burned on-site.

Toilet wastes from recreation sites, works bases and residences will be treated to meet public health standards.

## **9.5. PUBLIC SAFETY**

### **SPECIFIC MANAGEMENT OBJECTIVES**

- to minimise avoidable public safety hazards;
- to design and maintain recreation areas to ensure a high level of public safety.

#### **9.5.1. Background**

There are a number of potential public safety issues in the Corridor, including:

- becoming lost, or injured in a fall;
- injury or drowning because of the turbid water, irregular rocky river bottom or flooding;
- venomous spider or snake bite;
- bushfire; and
- stock or dog attack.

All these hazards can be avoided if visitors take reasonable care. The Service will continue to promote safe recreation within the Corridor.

#### **9.5.2. Management practices**

The Service will design and maintain recreation areas so that they are reasonably safe for the intended types and level of use. Appropriate signs, pamphlets or other interpretative media will be used to remind all users that the Corridor environment presents dangers at certain times.

Specialist advice will be sought when designing infrastructure for the Corridor that may effect public safety, e.g. river crossings, or other structures which modify river flow.

## **9.6. IMPLEMENTATION PLAN**

### **SPECIFIC MANAGEMENT OBJECTIVES**

- to prepare within 12 months of the release of the final management plan an implementation plan which will detail the tasks, target dates, outcomes and performance measures to meet the priorities listed in the Management Plan and in other associated strategies; and
- the implementation plan to be based on a rolling three year program and be subject to annual reviews.

#### **9.6.1. Management Practices**

The Service will allocate resources to prepare the implementation plan and for the yearly review, and the tasks identified will form part of the Service Level Agreement within the Service. Progress towards achieving the tasks in the implementation plan will be reported as measurable performance outputs. Peak interest groups will be regularly consulted on the implementation plan, and where appropriate, software tools will be used to help develop and track progress with the tasks identified in the implementation plan.

## 10. LAND MANAGEMENT AND PLANNING COORDINATION

### SPECIFIC MANAGEMENT OBJECTIVES

- to adopt an integrated catchment management approach to the management of the Corridor; and
- to liaise regularly with land and water management authorities and adjoining land users to work towards sustainable land use.

### 10.1 MANAGEMENT PHILOSOPHY

Management of the Corridor cannot be divorced from the rest of the ACT and NSW and the Service is committed to effective co-operation with authorities responsible for catchment and river management within and outside the ACT. This will promote an integrated catchment approach to management and help protect the soil stability and water quality of the Murrumbidgee. The ACTP&CS will liaise with NSW land and water management authorities to seek co-operative land and water management in the Upper Murrumbidgee Catchment to achieve sustainable land use and to advance the objectives of the Corridor management plan.

### 10.2. NSW AUTHORITIES

The following are the NSW state and local government organisations who have a role in managing the catchment:

- *Department of Land and Water Conservation* - regulates water quality and quantity, and in-stream and riparian recreation;
- *Environment Protection Authority* - also regulates water quality;
- *Department of Fisheries* - is responsible for the conservation and management of fish, especially endangered native species, and the management of angling;
- *Department of Planning*, - is responsible for environmental assessment of developments, and regional and local planning schemes;
- *National Parks and Wildlife Service* - has responsibility for the conservation of natural and cultural heritage;
- *Department of Land and Water Conservation* - has responsibility for catchment protection and land rehabilitation, and for the management of Crown lands along the River Corridor upstream and downstream of the ACT;
- *Cooma-Monaro Shire Council* - is responsible for most of the Murrumbidgee area upstream of the ACT;
- *Yarrowlunla Shire Council* - is responsible for areas on the Murrumbidgee directly upstream and downstream of the ACT, and for substantial parts of local tributary catchments; and
- *Yass Shire Council* - is responsible for the area further downstream of the ACT to Burrinjuck Reservoir.

### **10.3. COMMONWEALTH AND ACT PLANNING AUTHORITIES**

The Service will continue to liaise with the National Capital Authority and Planning and Land Management, to ensure that the management implications of land use policies, and planning and development proposals, are fully taken into account.

### **10.4. ADJOINING LAND USERS**

The Service will encourage the formation of catchment management groups so that issues of concern or new proposals can be discussed in an atmosphere of mutual consent. Adjacent land users will be encouraged to join existing groups or form new ones where such groups do not exist and the Service will provide support for group development. These groups which will provide the opportunity to raise issues of concern to the management of the Corridor. Where a specific issue arises that effects only one or two adjacent land users the Service will deal directly with these users.

### **10.5. ADJOINING LAND USES**

Where an issue of concern with an adjacent land use arises this issue will be dealt with by either using the catchment group process, direct liaison with the land manager/development proponent or through the provisions of the Land Act. In all cases negotiation will be the first tactic used.

## 11. MANAGEMENT OF THE LANYON LANDSCAPE CONSERVATION RESERVE

### SPECIFIC MANAGEMENT OBJECTIVES

The Reserve will be managed to conserve its integrity, primarily as an historic rural landscape. The relevant objectives outlined elsewhere in this plan for the Corridor as a whole are adopted as objectives within the Lanyon Landscape Conservation Reserve.

In addition it is proposed:

- to conserve the cultural significance of the Reserve, including that of the buildings, component places and their contents and the collections within it;
- to retain the nineteenth century rural elements of the Reserve landscape and its surrounds, as well as the later elements resulting from continued rural development; and
- to ensure that conservation objectives are paramount to interpretation.

### 11.1. MANAGEMENT CONTEXT

The Lanyon Landscape Conservation Reserve (the Reserve) (figure 2) is part of the Corridor, and was reserved under the *Nature Conservation Act 1980* on 18 December 1985. The Museums and Galleries Section of the Bureau of Arts and is responsible for the management of Lanyon precinct.

#### 11.1.1. Application of the other provisions of this management plan

Unless stated otherwise in this section all the provisions of this plan apply to the Lanyon Landscape Conservation Reserve.

#### 11.1.2. Location

The boundaries of the Reserve extend from Tharwa to Point Hut, and includes areas on both sides of the Murrumbidgee River (figure 2). The Reserve contains two principal groups of historic resources within a shared historic rural landscape setting:

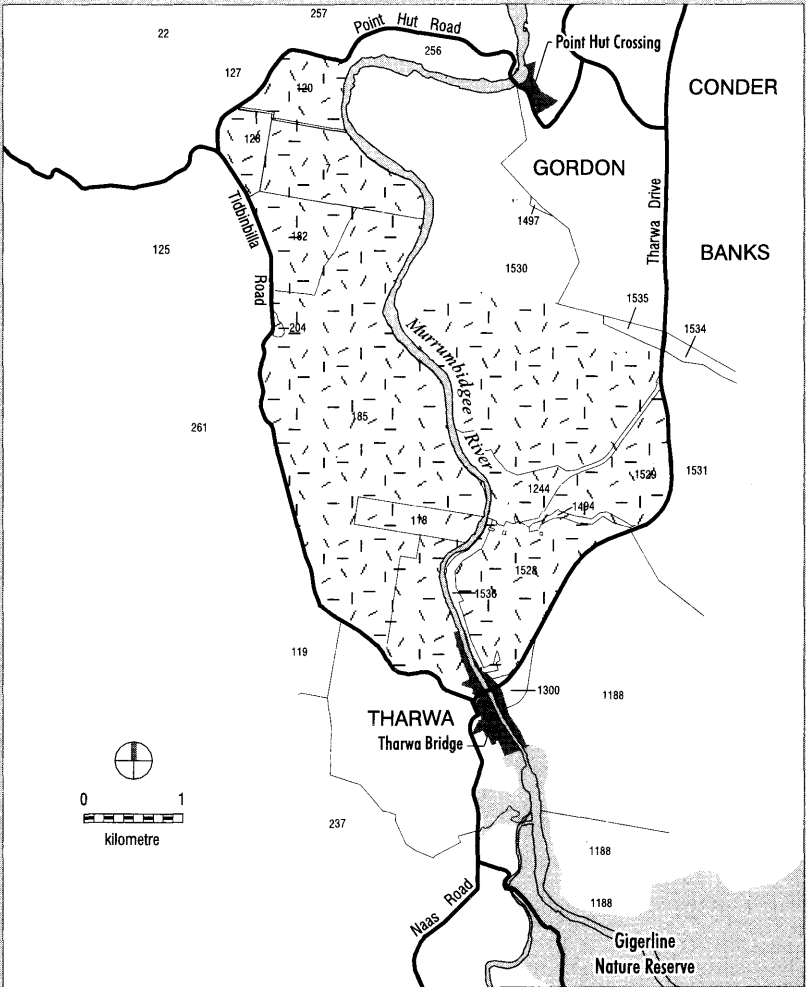
- Lanyon (on the east bank of the River), including the homestead, outbuildings, structures, cottages, gardens, orchard, amenity plantings, evidence of earlier cultivation and other land use; and
- Lambrigg (on the west bank), including the homestead and related outbuildings, William Farrer's grave, laboratory and trial wheat-growing plots and the De Salis memorial cairn.





The following components of the Reserve are listed on the Register of the National Estate: (Further details of these listings on the register are given in section 2.5 and table 2)

- Lanyon historic precinct;
- Lambrigg homestead and environs; and
- the 'Lanyon bowl' area, consisting of the visual context, the ownership boundaries and the historic context of all these central sites.

**Figure 3. Lanyon Landscape Conservation Reserve**

**Lanyon Landscape Conservation Reserve**



-  Lanyon Landscape Conservation Reserve
-  Nature Reserve
-  Recreation Area
-  Rural Block Number

### 11.1.3. Cultural significance

The Reserve is significant for its remarkably preserved and accessible landscape, which bears the imprint of successive phases of nineteenth and twentieth century rural development.

## 11.2. MANAGEMENT PRACTICES

### 11.2.1. Conservation policy (see also section 4.3)

The cultural heritage values of the Lanyon precinct are to be conserved in accordance with Australia *ICOMOS Charter for the Conservation of Places of Cultural Heritage Significance*. The following policies will apply.

- All buildings and structures are to be retained as evolved structures and any changes for interpretative purposes or the provision of visitor services should be minimal and reversible.
- No new buildings will be constructed unless they are essential to the operation of the property.
- The garden and rural landscape are to be conserved as evolving landscapes with emphasis on recovering some of the nineteenth century landscape elements which are disappearing as mature trees die. Tree planting should reflect the earlier landscape, but not attempt to replicate it. Environmental concerns such as erosion will also be addressed.
- Traditional grazing practices will continue so as to retain the rural landscape of the property.
- The collection, disturbance or damage of prehistoric or historic artefacts will not be permitted without approval of the ACT Heritage Council and in the case of Aboriginal material, local Aboriginal representatives.
- Conservation policies and maintenance schedules will be prepared to guide operation of the precinct. They will comply with the requirements for entry of a place into the interim Heritage Places Register.
- A comprehensive register and database will be developed for all cultural sites in the precinct.
- Additional research into the history and prehistory of the precinct will be encouraged.
- Expertise and community interest will be sought where appropriate in the management of the precinct.
- Recreational use of the precinct will be determined by rural use and museum requirements. Recreational activities will generally relate to museum activities as determined by the site interpretation plan. For example, guided walks to parts of the properties not generally accessible to the public will be available on a regular basis, whereas vehicle access, barbecues and swimming in the River, will not be permitted.

### 11.2.2. Management strategy

The management strategy for the Lanyon precinct will be to retain a grazing landscape within which historical elements are selectively presented for visitor appreciation and exploration. Apart from continued rural activities (including maintenance of pastures, fences, gates and sheds), the main management activities will include:



- presenting and interpreting history and appropriate components of the landscape; and
- curating buildings, contents, structures, gardens, landscape, archaeological sites, visitor facilities and roads.

### **11.2.3. Landscape management of the Reserve and its context (see also section 4.4)**

The Service believes that it is essential to manage this historic landscape with sensitivity to its sense of place and links with the past. The Lanyon and Lambrigg homestead areas cannot be separated from their surrounding rural landscape and land management practices. Landscape, artefacts and buildings illustrate the continuity of landscape development over 150 years of European settlement and millennia of Aboriginal occupation.

The overriding landscape management objective in this area must be to promote a sense of place and history for visitors, and to provide an opportunity for the interpretation of a well conserved piece of Australian history. Its integrity will be compromised by any insensitive development or management.

This landscape will be managed by retaining a viable rural operation, and prohibiting inappropriate or incongruous elements from the landscape. All or any part of the historic district in this part of the Corridor is at risk if rural use is compromised by intrusions from riverside use and development. The focus will be on interpreting the historic associations and meaning of the landscape, rather than developing recreation opportunities which conflict with or are not related to this interpretative need.

It is essential to retain the historic rural landscape setting by ensuring that land management practices - for example, continuity of stock types, retention of traditional fences, and fence alignments, paddock sizes, rural buildings, plantations, access to the River, use of fertilisers, herbicides and pest control - are compatible with this requirement. Management actions must not detract from or destroy the historic integrity or context of the physical evidence or of the rural surroundings. Accordingly, lease conditions and other agreements for farm operations will specifically address implications for cultural heritage conservation.

These conditions infer a need to ensure that any use of the Reserve or the use of any part of the Reserve for recreational pursuits or any other purpose do not conflict with the values associated Lanyon's landscape or character. Similarly any use which may compromise the security of any facility or feature of archaeological significance must be strictly controlled.

### **11.2.4. Rural tenure**

The Service, in consultation with the Museums and Galleries Section, will investigate the most appropriate and feasible form of concession agreement under which the rural property within and surrounding the precinct can be operated for the Service by the private sector, as part of a viable rural enterprise.

### **11.2.5. Consultation**

The Lanyon Advisory Panel, a body which exists to advise the Minister about conservation and museum matters relating to the precinct and the Reserve, will be consulted during development of the Lanyon historic precinct plan.

### **11.3. LANYON HISTORIC PRECINCT - INTERPRETATION AND PRESENTATION (see also section 6)**

In interpreting the history of the area, the Service has chosen to concentrate on Lanyon rather than Lambrigg due to its accessibility, the complexity, interest and intact nature of its interpretation sites and management feasibility.

An interpretative strategy for the Reserve, consistent with this plan, will be prepared and conducted by the Museums and Galleries Section, and in consultation with the Heritage Council of the ACT. This will be co-ordinated with other Corridor interpretative programs, and with precinct planning.

The Lanyon interpretation plan will be based upon the interpretation and management strategy outlined in the Department of Territories (1986b) report which recommends managing the homestead and its environs to illustrate the several successive periods in the history of the site. Interpretative planning is based on the following concepts and principles.

- Part of the precinct will be managed as a 'place museum', open to the public. The place museum will emphasise the buildings and related gardens, paddocks and other features in their historical context. The rest of the precinct will be operated as part of a working rural property, with limited public access.
- Conservation programs for Lanyon will be based on the conservation policies. Changes to gardens and rural areas surrounding the homestead will conserve the cultural significance. Policies for the conservation of the garden and broader environs will include replacing some ageing plant stock.
- Management and interpretation will be consistent with the precinct's cultural significance. Development programs or uses which are inappropriate to retaining cultural significance, or incompatible with operation of the surrounding rural property, will be excluded.
- Even though rural land will remain leasehold, an integrated management approach is required for the entire area, including the place museum, to ensure that landscape management, public access, visitor use and interpretation are effectively co-ordinated.
- All phases of Lanyon's past will be recognised in the interpretation of its history.
- An integrated approach to the management of the place museum and the rest of the precinct will mean that managers must control public access through a single admission point, to ensure the security and financial viability of the place museum. Walking tracks through the rural part of the precinct may be provided, but their use will need to be subject to the same kind of control.

#### **11.3.1. Objectives for Interpretation**

The major objective of an interpretative program at Lanyon will be to show the social history and systems behind the rural landscape of the area. Specifically the objectives are:

- to promote understanding of the social and economic history of the district, and of the people whose ideas and values produced the rural landscape;
- to reveal the meaning of the evolving landscape and its historic components, and promote awareness and understanding of the past; and
- to enhance the sense of visitor participation in history.

### 11.3.2. Requirements for interpretation

- Interpretative activities should not conflict with conservation objectives.
- All interpretative activities should be consistent with the Interpretation Plan for Lanyon, and be co-ordinated.
- All interpretation should be based on archival and site research, and investigative programs.
- Interpretation programs should be designed to encourage repeat visits.
- Interpretation programs should aim to reach a number of different levels of understanding rather than adopting a 'standard visitor' approach.
- To ensure the site is sensitively and accurately presented, visitors should be:
  - able to appreciate the patina of age of the fabric and landscape of Lanyon;
  - aware that Lanyon is evidence of history;
  - able to understand the chronology of the site; and
  - able to piece together and read the landscape context of the site.

### 11.3.3. Strategy

The strategy for the presentation and interpretation of Lanyon is:

- to establish the idea of continuity and change over time;
- to create sub-precincts at Lanyon which represent a particular period with a set of social and economic values which are readily recognisable to the visitor; and
- to establish a strong sense of continuity and overlap between the sub-precincts by the use of recurring themes.

Three sub-precincts have been identified.

- *Wright's farm.* The first sub-precinct relates to Lanyon's first ten years of occupation when it was a convict settlement. During this time James Wright operated a farm close to the homestead complex on the river flats and adjacent land. It is proposed to recreate some aspects of this farm, which is centred on the paddock in front of Lanyon, and which contains a barn that may have been built by Wright. It will convey some aspects of the social system of convict assignment of the time, as well as the rural practices, economics and technology then prevailing.
- *Cunningham's homestead complex.* The second sub-precinct was owned by the Cunningham family from the 1840s to the 1920s. The central group of Lanyon buildings, gardens and work areas surrounding the courtyard represents the Cunningham organisation and management, even though some of the buildings are probably Wright's. It is the centre of an extensive rural and agricultural enterprise, which includes the homestead, the garden and the houses of Lanyon workers.
- *Thomas Field's Lanyon Pty Ltd.* This is the twentieth century Lanyon, with modern technology and paddocks of improved pasture. It is represented by modern vernacular structures such as the shearing and machinery sheds and stables, which are part of the current sheep grazing operation.

The six themes which recur in each sub-precinct are:

- *the making of the rural landscape*, incorporating vegetation patterns, the architecture and location of buildings, and land use patterns;

- *technology and irrigation*, including plant breeding, water supply, transport, and construction techniques;
- *everyday life*, including domestic life, the working lives of shepherds and owners, and cultural, recreational and religious pursuits;
- *master-servant relationships*, describing the relationship between employer and employee;
- *Lanyon and its community*, setting Lanyon in the context of local, national and international events; and
- *rural practices*, describing land use patterns and agricultural techniques.

#### **11.3.4. Interpretation programs**

Lanyon is an historic resource for which the key use is education through recreational enjoyment. All interpretation activities have an educational function, and should foster an interest in, and an awareness of, Lanyon and its history.

In planning the interpretation programs for the precinct, the following will apply:

- all interpretation programs and activities should have an educational focus which relates to the site;
- specific education programs which represent only part of the interpretation program should be aimed at both school and other visitor groups;
- interpretation programs should provide a range of media for formal and informal educational use;
- the precinct can only be used for activity programs when staff and other resources are available;
- all activities should be relevant to the precinct and its interpretative aims;
- community, heritage and professional organisations should be encouraged to participate in developing and implementing programs consistent with interpretation policies for the precinct; and
- programs should meet a range of needs and standards and should offer multiple perspectives.

#### **11.3.5. Visitor services and facilities**

Services and facilities for visitors will be consistent with the conservation and interpretation of the landscape and its history. Facilities or services will not be intrusive or adversely affect the cultural significance of the place, but consideration will be given to the disadvantaged in relation to access to the resource or its facilities.

The precinct will be accessible to the public during normal leisure times, and refreshments, museum shop, access trails, toilets, parking and information services will be provided.

No formal provision will be made for outdoor leisure, cooking or eating facilities except at the existing food outlet located in an out-building of Lanyon Homestead.

#### 11.4. LAMBRIGG HISTORIC PRECINCT

The Lambrigg historic precinct consists of the homestead buildings and grounds, together with William Farrer's laboratory, trial plots and grave, and the De Salis memorial cairn. It is shown in figure 2 as Block 7, Paddys River District. Lambrigg was originally part of the Cuppacumbalong property owned by the De Salis family. It was given to William Farrer on his marriage into the family. Around the turn of the century, Farrer used the laboratory and plots for research into rust-resistant strains of wheat. This work had very important economic and social implications for food crop production world-wide. Farrer's grave was declared a national memorial in 1939. There are many historically significant structures and other evidence on the property. The broad landscape context of Lambrigg is inseparable from that of Lanyon (see also section 4.4).

A conservation plan for the block has been prepared by a consultant (Phillip Cox, Richardson, Taylor and Partners Pty Ltd 1988). This will be used to develop a Lambrigg historic precinct plan in accordance with the principles and procedures outlined in this plan. The precinct plan will elaborate on the relevant provisions of this plan, including:

- Rural land use will continue under lease, and the homestead will still be used by the lessee as a residence. The current lease continues until 2005.
- As explained above, presentation and interpretation effort in the Reserve will emphasise Lanyon over Lambrigg.
- The Service does not envisage that there will be substantial levels of public access within the precinct.
- Preservation and curatorial works will be required to conserve the fabric of the structures. Existing structures, including the homestead and garden, will be retained in their present form. Any new structures will be subject to the other provisions of this plan, and should be designed and located to avoid any compromise of cultural values of the precinct.

Since William Farrer's grave is a site recognised under the *National Memorials Act 1928*, the Canberra National Memorials Committee will be consulted in the development and implementation of the precinct plan for Lambrigg insofar as it relates to management of the grave site. This site is maintained by the City Art and Decoration Unit of City Management Section, Department of Urban Services.

## 12. MANAGEMENT OF NATURE RESERVES

Nature reserves declared under the *Nature Conservation Act 1980* (NCA) are relatively undisturbed areas of ecologically significant communities or habitats. They may also include features of geological, archaeological or historic interest, and may have high scenic values. While modification (e.g. disturbance, development) may have occurred, it is of a level that is acceptable or can be rehabilitated to an acceptable level. These areas are declared under the Act so that their natural and cultural heritage can be conserved, and the public can appreciate native flora and fauna within their natural environment.

Four nature reserves were gazetted under the Act on 8 May 1991. They are:

- Gigerline Nature Reserve (1457 hectares see figure 3);
- Bullen Range Nature Reserve (3570 hectares see figure 4);
- Stony Creek Nature Reserve (825 hectares see figure 5); and
- Woodstock Nature Reserve (356 hectares see figure 6).
- Swamp Creek Nature Reserve was reserved with the introduction of the Territory Plan in 1993 (figure 7).

This section satisfies the requirement for a statutory management plan for these reserves, and describes the resources of each reserve and how the management objectives and policies stated elsewhere in the plan apply to them.

### 12.1. BASIS FOR MANAGEMENT

The ecosystems of these nature reserves are the best remaining examples of the riparian and aquatic systems that once extended along the Murrumbidgee River. The management of these remnant ecosystems will be aimed primarily at protecting them from further disturbance, and enhancing their nature conservation values. Human disturbance of these areas will be kept to a minimum, and this will be reflected in the provision of visitor facilities at these reserves.

The following are the objectives for these reserves:

- to preserve and protect existing natural areas and aquatic habitats;
- to regenerate previously disturbed areas;
- to minimise environmental damage by controlling usage levels and access; and
- to maintain grazing as a long-term land use in some rural areas that extend into the reserve.

Visitor facilities will be low key and located either on the perimeter of the reserve or in adjoining buffer areas. Stock will be permitted to graze in those areas to be retained as rural landscapes.

Adjoining areas will be managed to avoid adversely affecting the reserves by: restricting access, controlling stocking rates and fire hazard, and restricting management practices such as the use of fertiliser, pesticides, pasture improvement and irrigation.

## **12.2. MANAGEMENT OBJECTIVES AND PRACTICES**

Unless stated otherwise in this section, the objectives, principles, policies and practices described in this plan also apply to nature reserves.

### **12.2.1. Heritage values**

The corridor supports a diverse cross section of lowland plant species, some rare and threatened and includes dry open forest to riparian and aquatic communities and these habitats support a wide range of native animals. A significant number of species are exotic.

Aboriginal association with the Murrumbidgee can be traced back many thousands of years. The majority of known Aboriginal sites within the Corridor are within the nature reserves, which also contain many European cultural sites.

It is very important to maintain these heritage values and to buffer them from adjoining, and sometimes conflicting land uses.

### **12.2.2. Visitor use**

Management practices within these reserves will be aimed at minimising the impacts of recreation, interpretation programs, management activities and access requirements.

### **12.2.3. Resource interpretation and education**

Interpretative material provided for these reserves will stress the importance of minimising human impacts. Organised groups wishing to visit these reserves will be encouraged to keep their numbers small.

### **12.2.4. Resource protection**

Nature reserves will be protected from impacts attributable to adjoining land uses, including:

- the spread of pine wildings (generally Monterey pine), introduced pasture and crop plants such as canary grass, cocksfoot, clovers, medics and willows;
- unauthorised grazing of stock or domestic animals, such as dogs, entering reserves;
- contamination of streams by pollutants in urban run-off or from chemical application in rural areas;
- temporary soil instability and erosion as a result of operations up-slope from nature reserves;
- high use of walking tracks and low-key facilities in areas near urban development;
- increased potential sources of fire ignition and greater fire hazard; and
- potential sources of pest plants and animals.

### **12.2.5. Management of other activities**

The following statements are derived from the policies outlined in section 7.3, and refer only to the nature reserves:

- extracting sand and gravel will not be permitted from any nature reserve except for habitat management and operational maintenance purposes;
- clearing and cutting of timber will not be permitted within any nature reserve, unless it is in accordance with the relevant parts of section 8.3;
- removing firewood from nature reserves will not be permitted;
- moving of stock will not be permitted through nature reserves without Service approval;
- domestic pets are not permitted within nature reserves; and
- disturbance such as taking, killing, picking, excavating, defacing or otherwise disturbing natural or cultural features, or carrying firearms, bows or other hunting or capture devices, is not permitted within nature reserves.

## **12.3. GIGERLINE NATURE RESERVE**

The Gigerline Nature Reserve (figure 3) extends from the southern border of the ACT to the northern boundary of Outward Bound (including the De Salis Cemetery). The 1500 hectare reserve is characterised by steep valley slopes which rise to the hills of Mount Gigerline and the Rob Roy Range. This rugged landscape is typified by Gigerline Gorge and the deeply entrenched valleys of Guises and Reedy creeks, and contains many significant geological and geomorphological features.

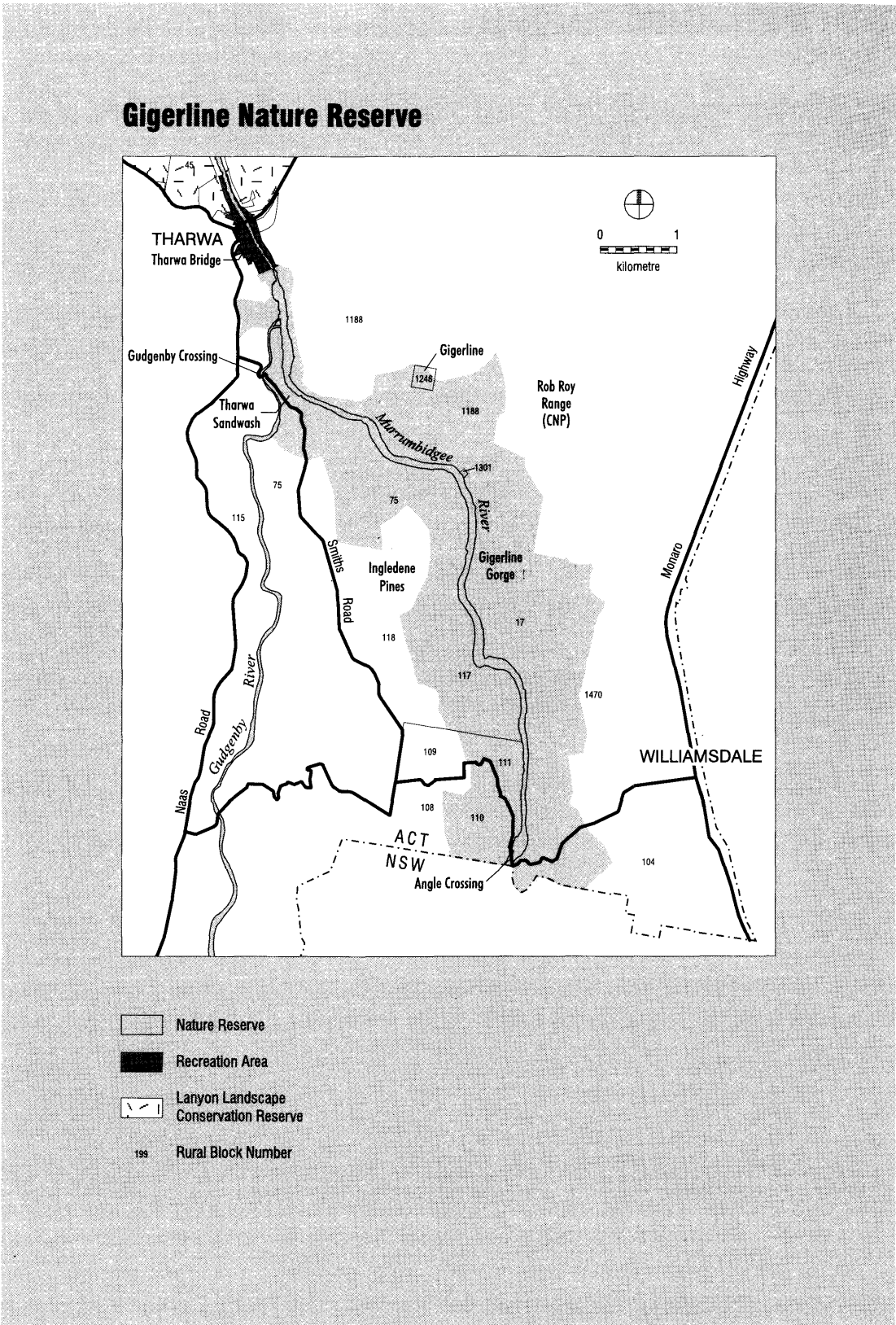
Much of the central part of the reserve has been cleared and there is only a sparse tree cover over the rest of the reserve. There are some valuable areas of remnant native vegetation such as the downstream stands of manna gum, and in and around the Gorge. The River section of the reserve has reported occurrences of the endangered trout cod.

Specific management objectives for the Gigerline Nature Reserve are:

- to protect significant river channel landforms and formation;
- to buffer the core area in and around Gigerline Gorge from adjacent rural, forestry and recreation uses;
- to maintain the predominantly remote recreation opportunities available in the Gigerline Gorge area and provide low-key recreation opportunities from Tharwa Sandwash to De Salis Cemetery with links to areas outside the Corridor;
- to protect and interpret significant cultural sites and settings in the section surrounding De Salis Cemetery (see also section 4.3); and
- to enhance recreation and wildlife corridor links with the Rob Roy Range and the lower slopes of Mount Tennent along the Gudgenby River.



Figure 4. Gigerline Nature Reserve



Note: The boundary of the reserve near Mount Tennent will be subject to further study in the light of the proposed Tennent Dam construction.

## 12.4. BULLEN RANGE NATURE RESERVE

The Bullen Range Nature Reserve (figure 4) extends north from Pine Island to the confluence of the Cotter and Murrumbidgee Rivers, and is approximately 3 800 hectares in area. It is a conspicuous element in the landscape west of Canberra and provides the scenic backdrop to the Tuggeranong Valley. The low hilly terrain of the reserve is covered by extensive open forests of scribbly gum, red stringybark, apple box, mealy bundy, and red box. Black cypress pine occurs on parts of the lower Bullen Range. River vegetation is well developed with stands of river oak extending along the banks of large pools.

The Bullen Range is the largest continuous natural habitat area in the Corridor. It is one of the few remaining areas in the ACT where relatively natural forest and river bank habitats exist as a gradient from ridge top to river valley. It also contains rare and threatened plant species (see section 4.2, Management of Terrestrial Natural Resource Values). Aquatic habitats are diverse, and the large deep pools support native fish, crayfish, water birds, platypus and eastern water rat. The relative isolation of these pools provides a degree of habitat protection. The reserve also provides suitable habitat for the autumn migration of honeyeaters. These birds require the shelter of trees along the river for roosting and protection from predation.

Other features of special significance include:

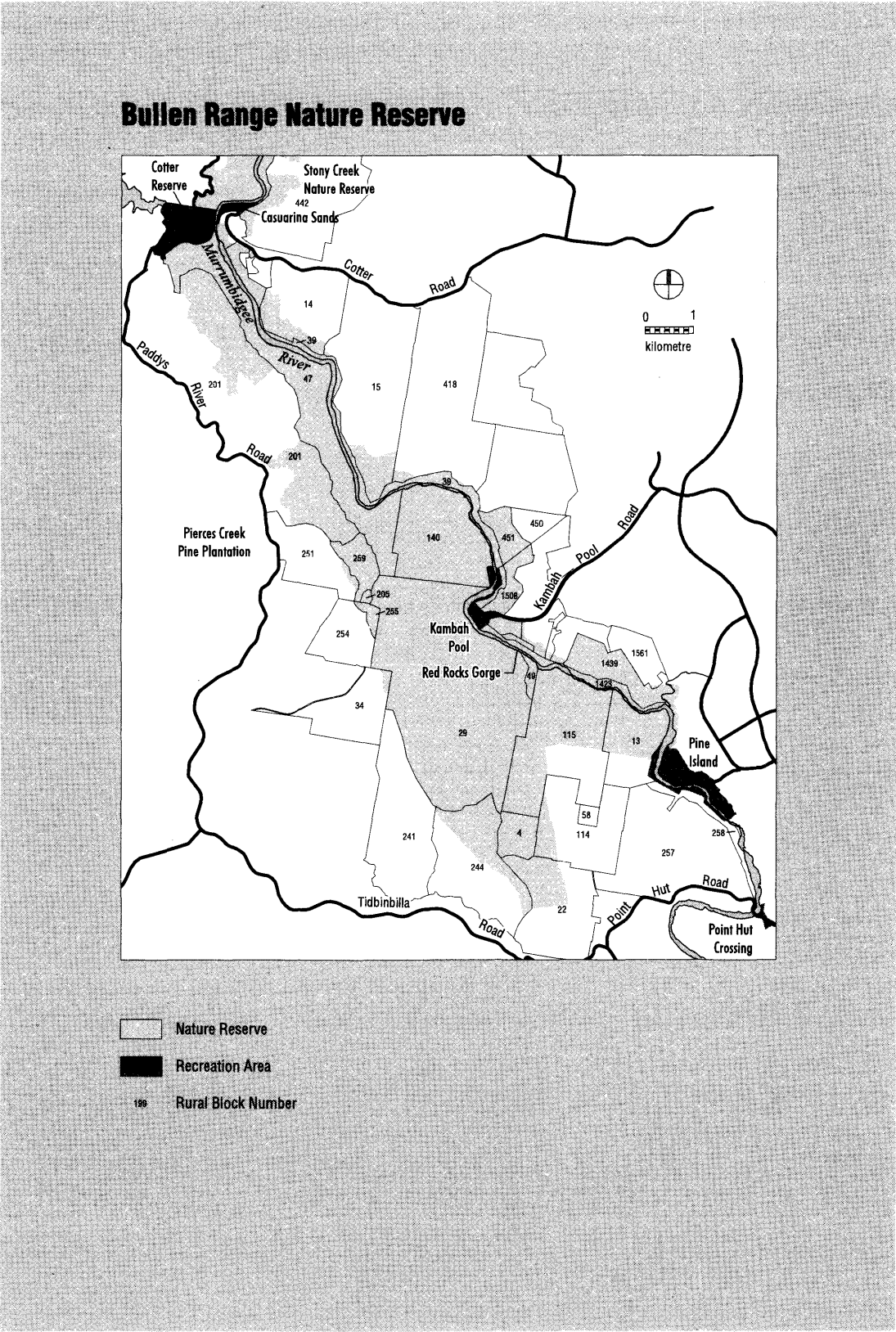
- *Red Rocks Gorge*, an area of high cliffs and rugged rock formations, containing significant ecological sites (see section 4.2), and with a sense of remoteness from the urban environment;
- *Paddys River caves*, a limestone karst area of significant geological, geomorphological and historic value, as well as being the only recorded ACT location of the rare perennial herb *Drabastrum alpestre*, and significant habitat for the bent-wing bat (see also sections 4.2 and 4.3);
- *Tuggeranong stone wall*, a significant cultural feature.

The reserve is crossed by several major services including power lines, an optical fibre cable and a variety of roads and tracks. Road access is from Cotter, Pierces Creek Forest, Tidbinbilla Tracking Station, Pine Island and Kambah Pool. A marked walking track extends from Pine Island to Casuarina Sands.

Specific management objectives for the Bullen Range Nature Reserve are:

- to minimise impacts associated with nearby urban developments in the Tuggeranong Valley;
- to buffer the more natural parts of the reserve from recreation developments at Kambah Pool, Pine Island and Cotter Reserve;
- to protect and enhance the area's visual and scenic qualities as the backdrop to the city and as the dominant northern aspect of the Paddys River valley;
- to protect the many sites of special ecological, cultural, geological and geomorphological significance;
- to recognise that the reserve, being the largest nature reserve in the Corridor and being close to the urban area, provides opportunities for the management and interpretation of wildlife not available elsewhere in the Corridor; and
- to provide a range of recreational and educational opportunities consistent with the above objectives, linked to areas outside the Corridor.

**Figure 5. Bullen Range Nature Reserve**



## **12.5. STONY CREEK NATURE RESERVE**

The Stony Creek Nature Reserve (see figure 5) is approximately 800 hectares in area and includes the narrow riverine environment stretching 13 kilometres between Casuarina Sands and Uriarra Crossing. The southern sections are wider than those downstream and link the Stromlo and Uriarra pine plantations.

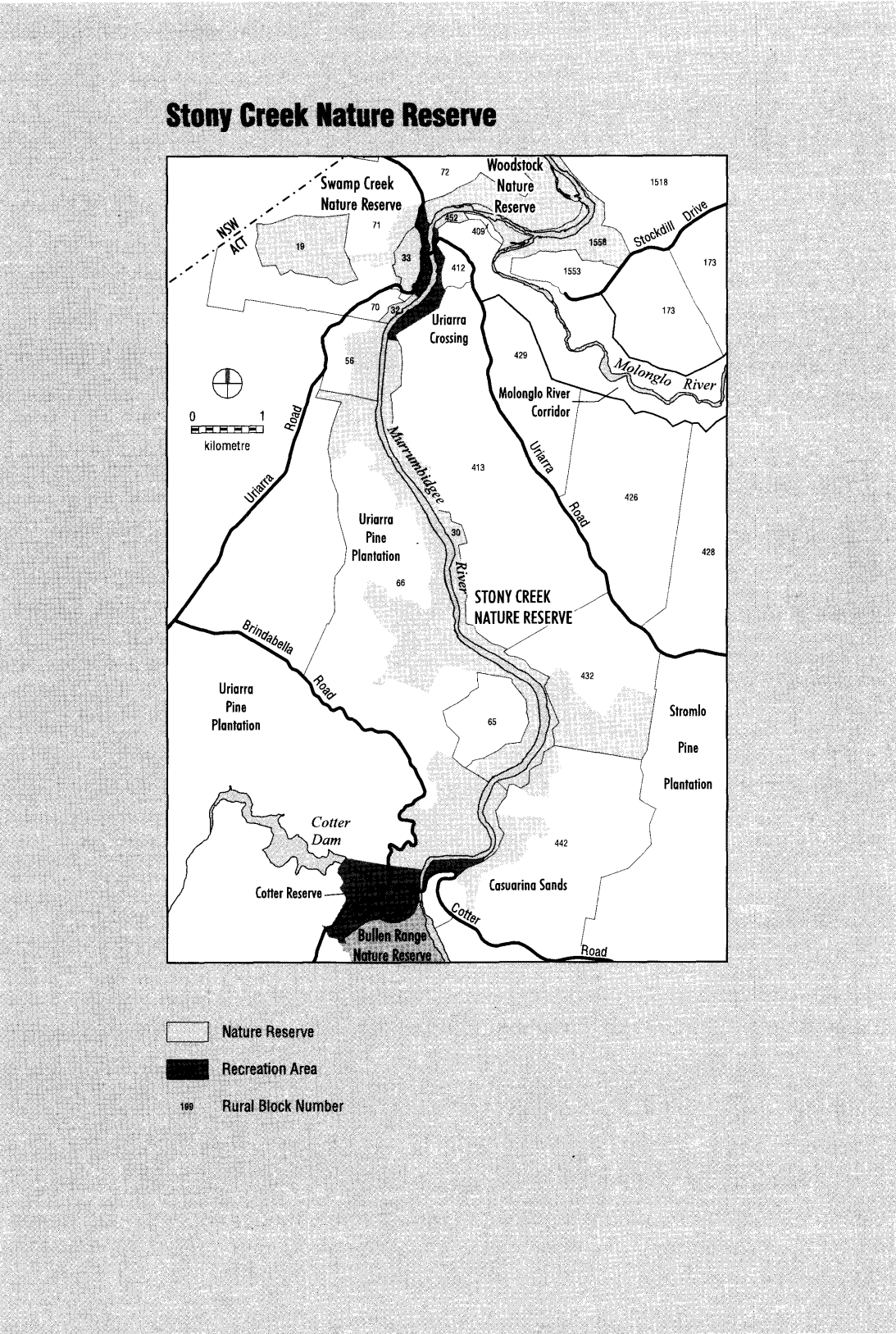
Remnant open forest of red stringybark and scribbly gum occurs on steep slopes below Mount McDonald and on Stony Creek and there are extensive stands of river oak on the small pools and rapids which characterise the River throughout this reserve. Vegetation in the northern parts consists of scattered trees, pasture and tea-tree. These include some uncommon plant species and provide some important habitats for fauna.

Road access is off Uriarra and Brindabella roads.

Specific management objectives for the Stony Creek Nature Reserve are:

- to provide continuity of management for river bank communities between Uriarra Crossing and Casuarina Sands;
- to maintain a corridor for the movement of native fauna, and for recreational access between the Uriarra and Stromlo areas; and
- to improve access for management activities.

Figure 6.      Stony Creek Nature Reserve





## **12.6. WOODSTOCK NATURE RESERVE**

Woodstock Nature Reserve (see figure 6) is approximately 350 hectares in area and extends north from Uriarra Crossing to the ACT border. The land is generally steep forested slopes bordering a wide river channel with extensive sand and gravel margins. Scattered black cypress pine, tea-tree scrub and extensive stands of river oaks are the predominant vegetation types in the reserve and provide significant habitats for bird species. Diverse aquatic habitat supports populations of native fish and platypus (see also section 4.1, Management of water and channel values).

The reserve also contains some significant geological and geomorphological features.

The northern part is crossed by high-voltage transmission lines. Part of the reserve was once the site of a sand and gravel extraction plant, approximately one kilometre downstream of the Molonglo confluence. The reserve adjoins Camp Sturt (which is leased by the YMCA) and the Lower Molonglo Water Quality Control Centre. The reserve adjoins the proposed Lower Molonglo Nature Reserve along the Molonglo River

Access is from Uriarra Crossing and from Belconnen via Stockdill Drive. There is a marked walking track from Shepherds Lookout to Uriarra Crossing.

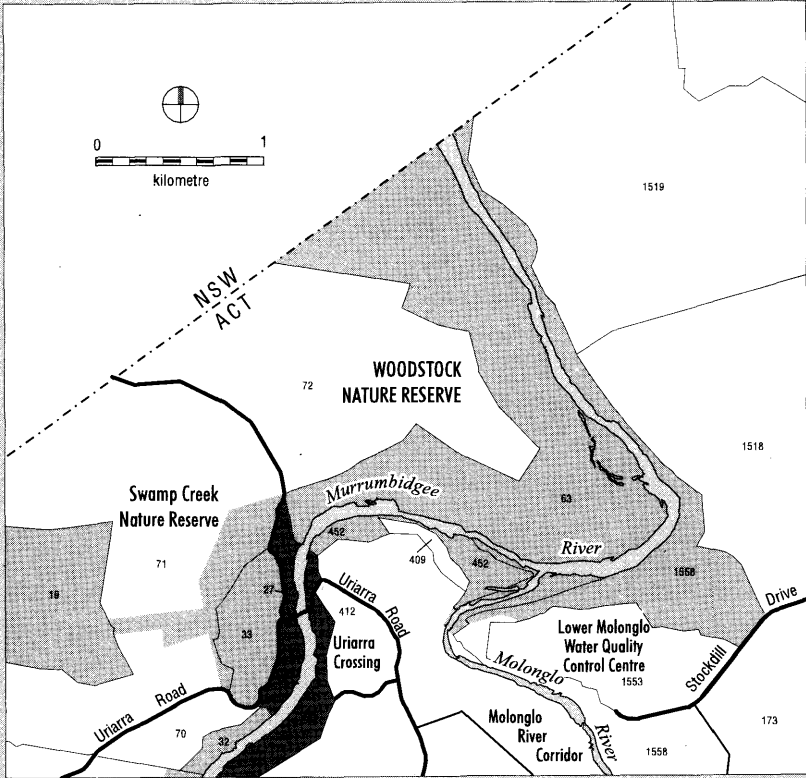
Specific management objectives for the Woodstock Nature Reserve are:




- to protect highly significant aquatic habitats, bird habitats and nesting sites (see sections 4.1 and 4.2);
- to provide low-key recreation opportunities close to Belconnen;
- to help the River recover from upstream impacts of the urban development of Canberra;
- to promote landscape regeneration at the sand and gravel extraction site and in the tea-tree scrub areas, consistent with the protection of significant ecological, geological and geomorphological sites; and
- to establish practices compatible with the proposed extension of reserved areas to incorporate the Swamp Creek area.

The Service is also considering the inclusion of the Swamp Creek area (west of Uriarra Crossing) in this nature reserve (see section 12).

**Figure 7. Woodstock Nature Reserve**

**Woodstock Nature Reserve**



-  Nature Reserve
-  Recreation Area
-  Rural Block Number

## **12.7. SWAMP CREEK NATURE RESERVE**

The smallest of the reserves, Swamp Creek Nature Reserve (see figure 7) is approximately 100 hectares in area, and extends west from Uriarra Crossing to near the ACT border. The reserve encompasses the Swamp Creek Valley and the confluence of Swamp and Uriarra Creeks. Much of the Reserve has been cleared and heavily grazed in the past. There are significant areas of remnant native vegetation along the creek beds and on sections of the steep valley slopes. Culturally the area is significant when considering the movements of Aboriginal people through the Canberra region.

Red stringybark and scribbly gum open forest occurs on the steep slopes along valley and she-oaks line the banks of the creeks. The trees provide a corridor of shelter in an otherwise open landscape. Swamp and Uriarra Creeks are the only rural creeks in the ACT, with a long and continuous community of she-Oaks, and constitute one of the most valuable rural creek bank habitats in the ACT (NCPA, 1990).

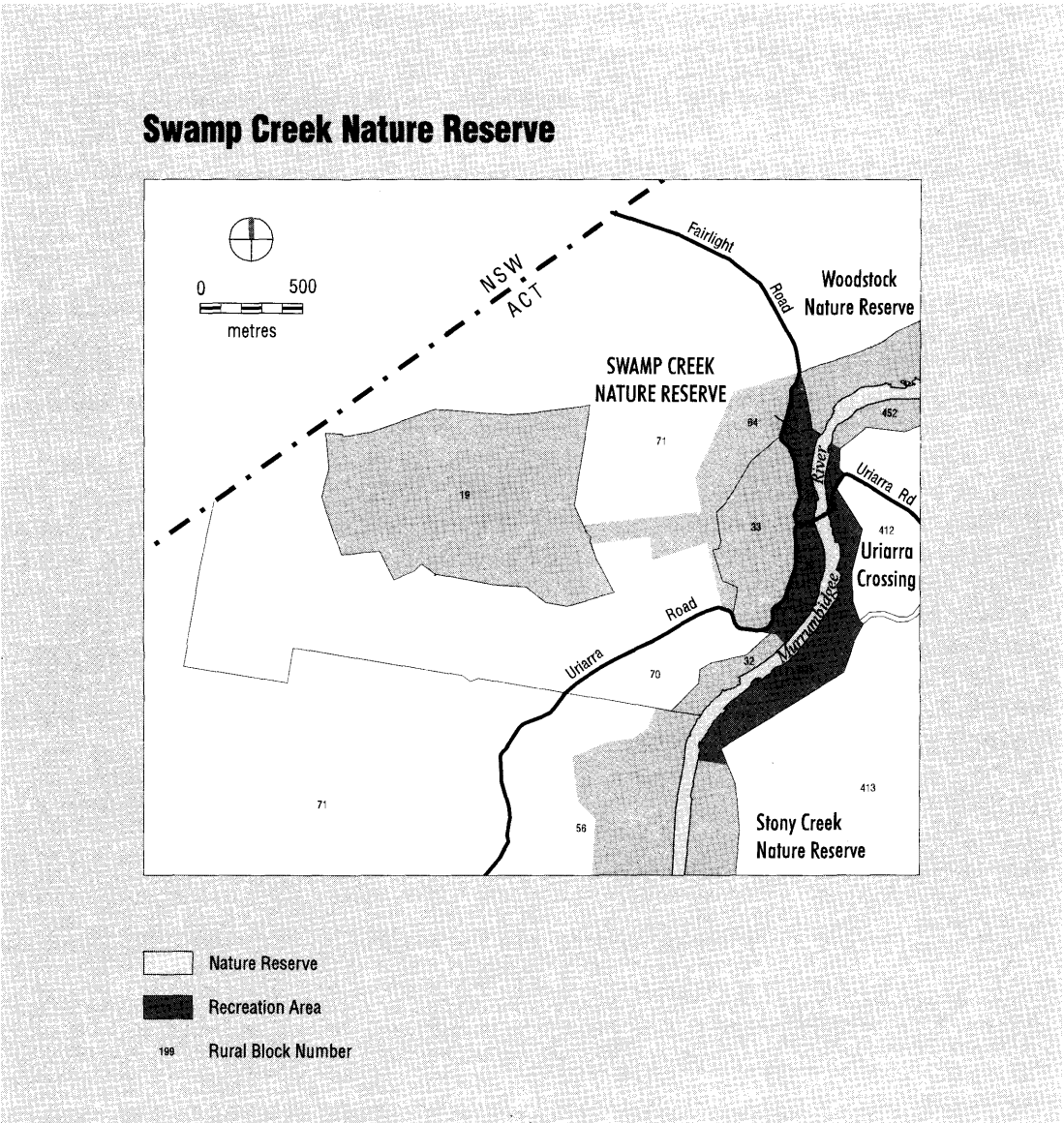
As the reserve is surrounded by leased land, public access will initially be restricted to ranger guided activities.

Specific management objectives for the Swamp Creek Nature Reserve are:

- to enhance wildlife corridor links between the Murrumbidgee River Corridor and the Brindabella Range;
- to conserve routes and places of cultural significance, including Aboriginal and historic sites; and
- to improve access for management activities.



**Figure 8. Swamp Creek Nature Reserve**



## **13. REVIEW OF BOUNDARIES AND DESIGNATIONS**

### **13.1. REGISTER OF THE NATIONAL ESTATE AND THE ACT HERITAGE PLACES REGISTER**

As outlined in section 2.5, 'Existing statutory responsibilities', the whole Corridor is listed on the Register of the National Estate, and some sites and precincts are listed individually. However, in some areas there is not consistency between the registered boundaries and management boundaries. The Service will liaise with the ACT Heritage Council and the Australian Heritage Commission on the following points:

- The boundaries of the Corridor as a whole, as defined in the Policy Plan (NCDC 1988a), with some significant variations in the Lanyon area, were entered into the Register in 1986. Now that the boundary of the Corridor for management purposes has been refined by this plan, it is timely to review the boundaries of the Murrumbidgee River valley area as entered in the Register. Except where the Australian Heritage Commission considers there is good reason for the boundaries to differ, the Service proposes that they be made identical. The extent of such adjustment includes the discrepancies northwest of Lambrigg and north of Lanyon and the additions necessary to include the boundaries of the nature reserves.
- The above proposal does not affect the separate registration of the Lanyon bowl area (which overlaps the Murrumbidgee River valley registered area), which also extends well outside the Corridor. This substantial difference between the boundaries of the Lanyon bowl registration and the Corridor as defined for management purposes needs to be taken into account in management, both of the Corridor and of the relevant areas outside it. It is not appropriate in this case that the Register and management boundaries coincide.

The principles outlined above will also be applied in a parallel process for nominating relevant Corridor values for listing on the ACT Heritage Places Register.

## 14. MANAGEMENT PRIORITIES

This plan contains a complex mix of objectives and procedures and its implementation is partly dependent on the availability of management resources. The plan is procedure-oriented, with emphasis on the factors to be considered and the parties to be consulted in problem solving.

The annual works program will reflect current priorities based on the management objectives, policies and procedures of this plan.

A summary of the management programs and priorities for the Corridor as at the time of preparation of this plan is outlined in table 6.

**Table 6. Summary of management programs and priorities for MRC**

Priority	Project	Likely duration	Ref. in plan
High	Undertake catchment management, including control of pollution and soil conservation within the Corridor	Continuing	4.1
Medium	Survey aquatic and terrestrial habitat and management requirements in the Corridor	Medium	4.1 4.2
Medium	Survey angling pressure on native fish stocks	Short	4.1
Medium	Monitor aquatic animal populations (particularly Murray cray to determine if recovery occurs after closure of the fishery)	Continuing	4.1
High	Develop a system to enable easier access to water quality data which is available for research	Continuing	4.1
Medium	Investigate additional conservation areas for reservation	Medium	4.2
High	Organise working collection of resource & management data and register of significant sites	Continuing	4.2 4.3
Medium	Apply management classification to Paddys River caves and undertake detailed local protection planning (integrated with that for rare plants and mines)	Short	4.2 4.3
Medium	Facilitate the monitoring of honeyeater migration	Short	4.2
High	Prepare 5-year cultural sites conservation program and works priorities and precinct plans	Short	4.3, 11, 12
Medium	Refine recreation site classification standards	Continuing	5.1
High	Maintain prescribed diversity of recreation opportunities at classified recreation areas within the specified standards	Continuing	5, 5.2, 5.5
Medium	Make formal management agreements with all organisations conducting recurrent group activities	Medium	5.2
High	Provide and maintain diversity of appropriate road and walking track access	Continuing	5.3
Medium	Assess proposals in the <i>Campground Strategy for the ACT Parks and Forests (1997)</i>	Short	5.3
High	Maintain all visitor use facilities	Continuing	5.5

Priority	Project	Likely duration	Ref. in plan
High	Operate visitor information and public contact systems	Continuing	5, 6
High	Develop annual interpretation program	Continuing	6, 10
High	Develop remedial soil conservation program and priorities	Short	7.1
High	Conduct progressive regeneration and rehabilitation of revegetation areas	Continuing	7
Medium	Develop effective liaison with lessees on soil conservation and vegetation management	Continuing	7
High	Implement the ACT Weeds Strategy	Continuing	7.4
High	Develop specific weed and vertebrate pest control programs and priorities	Medium	7.4
High	Conduct priority weed & feral animal control programs	Continuing	7.4
High	Remove wilding pines	Continuing	7.4
High	Prepare fire management plan	Short	7.5
High	Carry out fire protection measures	Continuing	7.5
High	Review grazing lease holdings, boundaries & provisions	Continuing	8.1
Medium	Review and adjust boundary fencing	Continuing	8.1
Medium	Review special development leases	Short	8.1
Medium	Review business leases	Medium	8.1
Medium	Formalise utility operational procedures and management arrangements	Medium	8.2
High	Conduct appropriate environmental assessment of works and operations required under the <i>Land (Planning and Environment) Act 1991</i>	Continuing	8.1
Medium	Develop and refine research priorities and co-ordination	Medium	8.2
Medium	Rationalise management access; close and rehabilitate eroding tracks	Medium	8.3
High	Rationalise works bases and operating arrangements	Short	8.3
High	Maintain management facilities	Continuing	8.3
High	Maintain effective co-ordination with other authorities	Continuing	9
High	Prepare an Implementation Plan detailing tasks to be performed, associated target dates and performance measures	12 months	9.6
Medium	Review Register of National Estate boundaries affecting Corridor; prepare parallel ACT Heritage Places Register nominations	Short	13.1

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<b>EXISTING PUBLIC VEHICLE ACCESS</b>
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The existing public vehicle access network comprises:

- . Angle Crossing Road, with access from the Monaro Highway at Williamsdale, and from Tharwa via Naas and Smiths roads
- . Access from Naas Road in the Tharwa area:
  - Tharwa Sandwash, via Smiths Road
  - Gudgenby Crossing, on Smiths Road
  - Cuppacumbalong art and craft centre
  - Tharwa township and bridge
- . Tharwa Road
- . Tidbinbilla Road
- . Lanyon homestead access, off Tharwa Road
- . Point Hut Road, between Tharwa Road and Tidbinbilla Road
- . Pine Island Road from southern Tuggeranong
- . Kambah Pool Road from northern Tuggeranong
- . Cotter Road and Paddys River Road, via Casuarina Sands and the Cotter Reserve
- . Brindabella Road north from the Cotter Reserve
- . Uriarra Road from Weston via Uriarra Crossing to Uriarra
- . Fairlight Road north from Uriarra Crossing
- . Stockdill Drive from west Belconnen to the Lower Molonglo Water Quality Control Centre and environs
- . forest roads within the pine plantations.

<b>LIST OF SCIENTIFIC NAMES FOR SPECIES WHERE COMMON NAME USED IN THE PLAN</b>
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**Common name****Scientific name****Native animals**

bent-wing bat	<i>Miniopterus shreibersii</i>
broad-palmed frog	<i>Litoria latopalmata</i>
brown toadlet	<i>Pseudophryne bibronii</i>
morabine grasshopper	<i>Keyacris scurra</i>
Murray cray	<i>Euastacus armatus</i>
nobbi dragon	<i>Amphibolurus nobbi</i>
pink-tailed legless lizard	<i>Aprasia parapulchella</i>
rainbow bee-eater	<i>Merops ornatus</i>
Rosenberg's monitor	<i>Varanus rosenbergi</i>
trout cod	<i>Maccullochella macquariensis</i>
two-spined blackfish	<i>Gadopsis bisponosus</i>
yellow-tailed black cockatoo	<i>Calyptorhynchus funereous</i>

**Introduced animals**

European fox	<i>Vulpes vulpes</i>
feral cat	<i>Felis catus</i>
oriental weatherloach	<i>Misgurnus anguillicaudatus</i>
rabbit	<i>Oryctolagus cuniculus</i>
wild goat	<i>Capra hircus</i>
wild pig	<i>Sus scrofa</i>

**Native plants**

apple box	<i>Eucalyptus bridgesiana</i>
black cypress	<i>Callitris endlicheri</i>
manna gum	<i>Eucalyptus viminalis</i>
mealy bundy	<i>Eucalyptus nortonii</i>
red box	<i>Eucalyptus polyanthemos</i>
red stringybark	<i>Eucalyptus macrorhyncha</i>
river oak	<i>Casuarina cunninghamiana</i>
scribbly gum	<i>Eucalyptus rossii</i>
tea tree	<i>Kunzea ericoides</i> and <i>Leptospermum</i> species

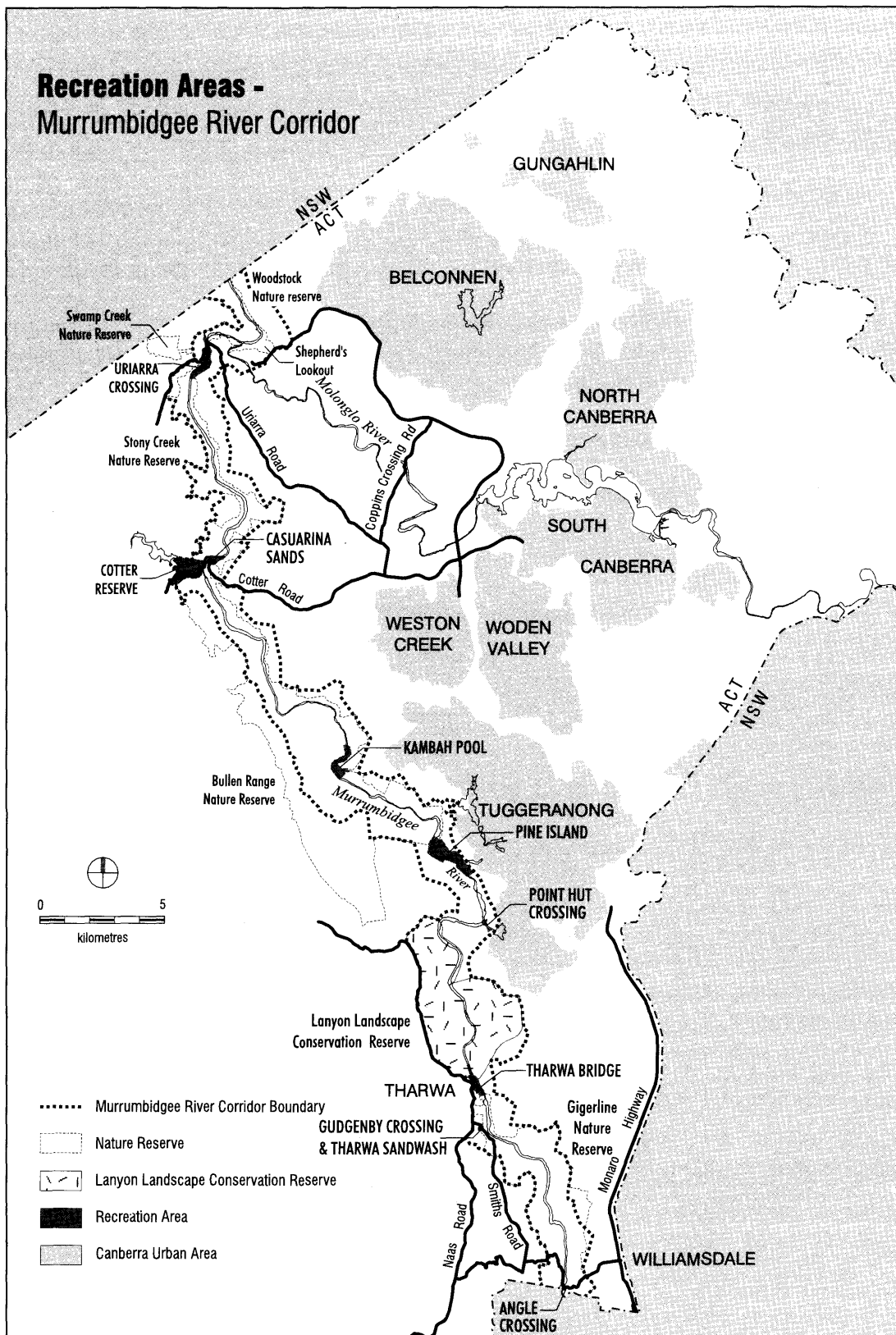
**Introduced plants**

broom	<i>Cytisus scoparius</i>
Monterey pine	<i>Pinus radiata</i>
Patersons curse	<i>Echium lycopsos</i>
serrated tussock	<i>Nassella trichotoma</i>
willow	<i>Salix</i> species

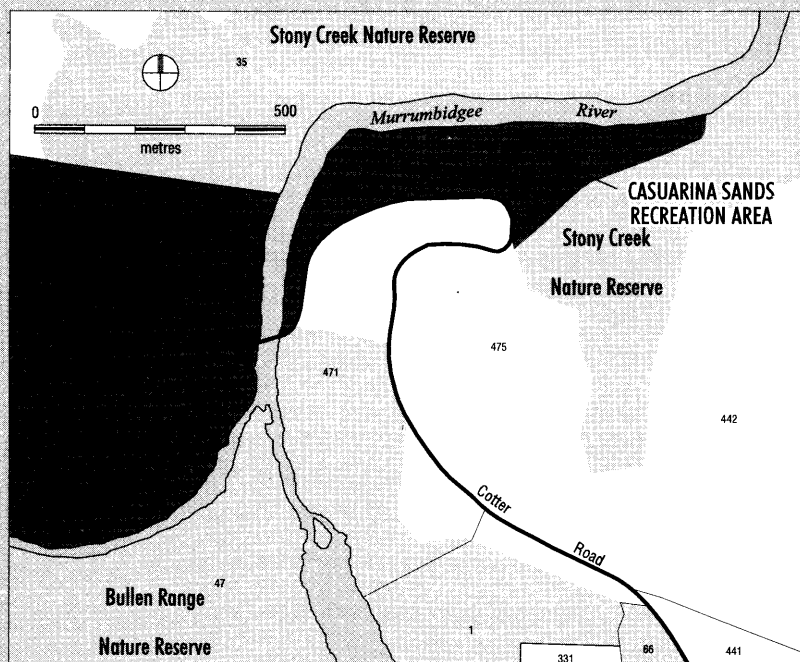
<b>RECREATION AREAS OF THE MURRUMBIDGEE RIVER CORRIDOR</b>
--

- Recreation areas -Murrumbidgee River Corridor
- Casuarina Sands Recreation Area
- Urriara Recreation Area
- Cotter Recreation Area
- Pine Island Recreation Area
- Kambah Pool Recreation Area
- Point Hut Crossing Recreation Area
- Tharwa Bridge Recreation Area

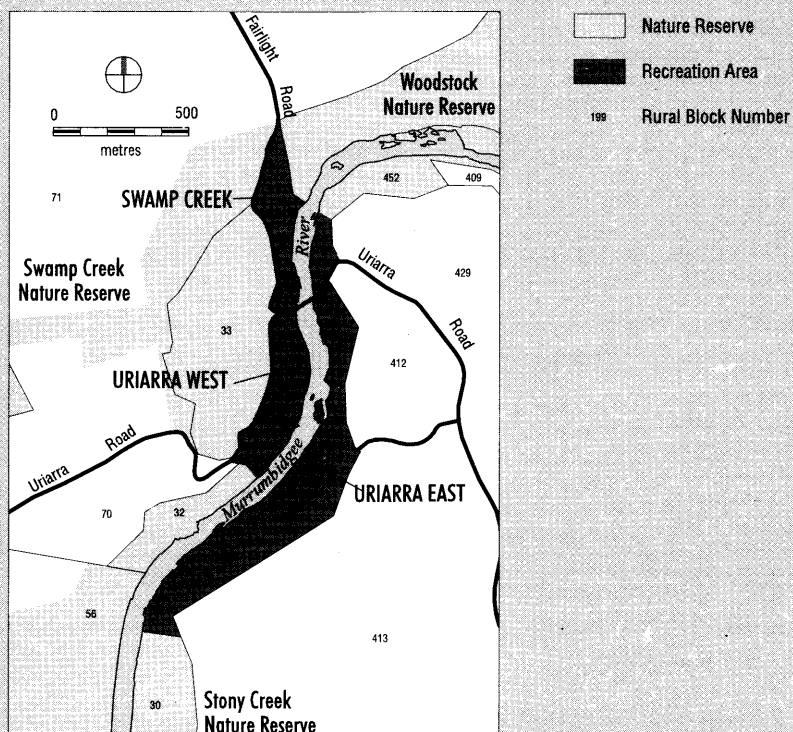
## Recreation Areas - Murrumbidgee River Corridor



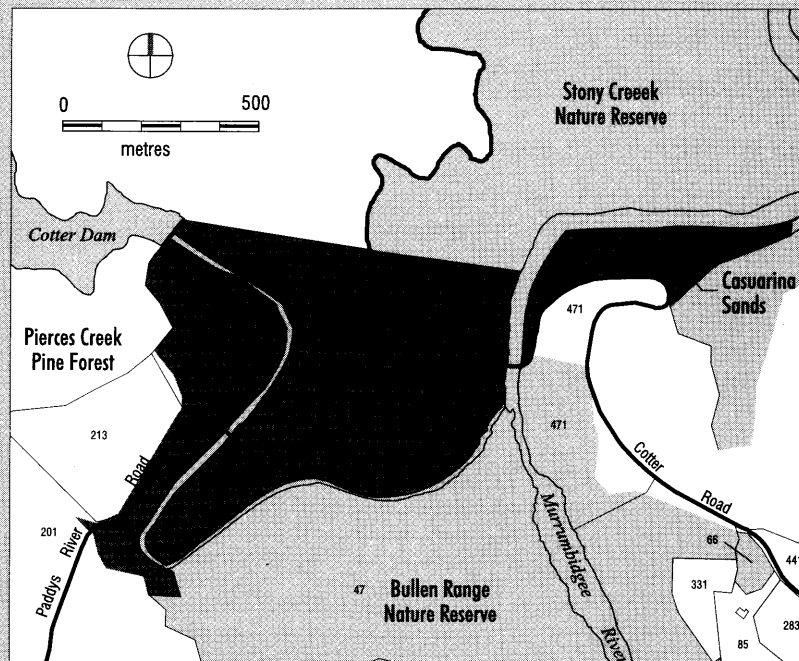
## Casuarina Sands Recreation Area



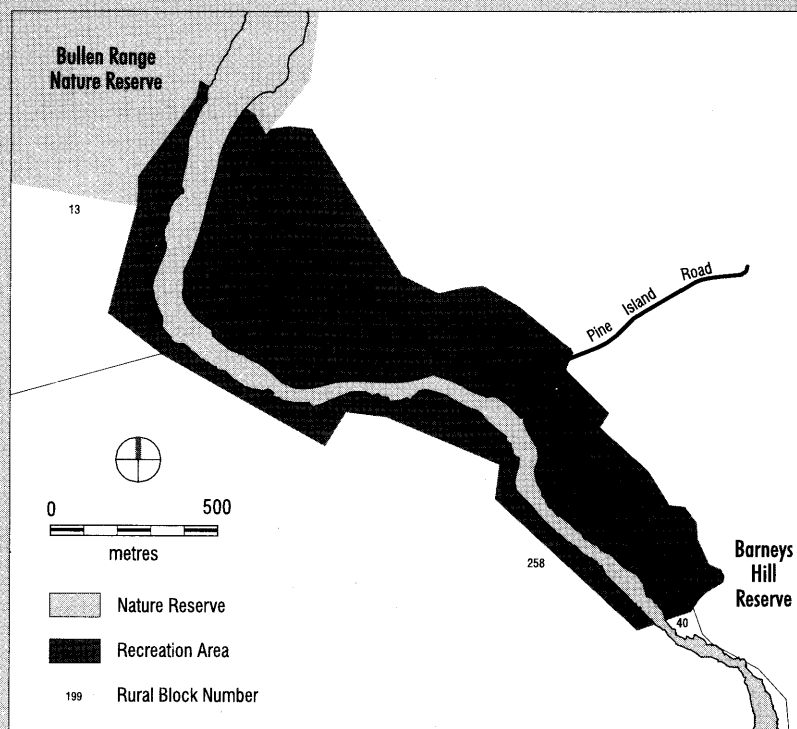
## Uriarra Recreation Area



## Cotter Recreation Area

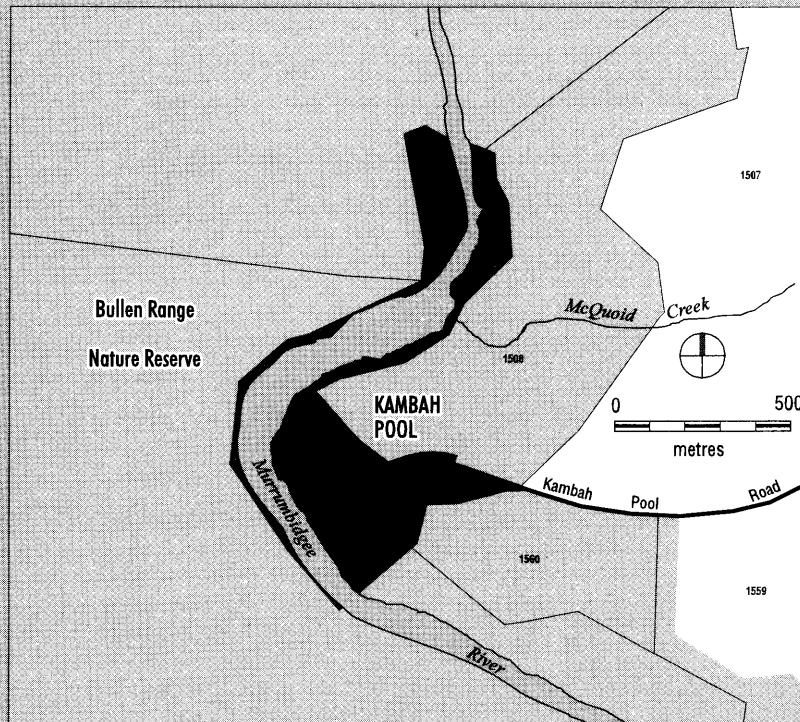


## Pine Island Recreation Area



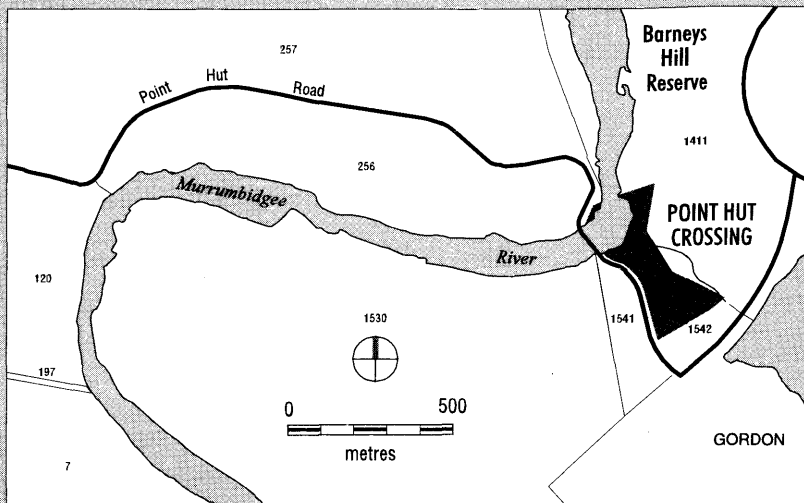


## Kambah Pool Recreation Area

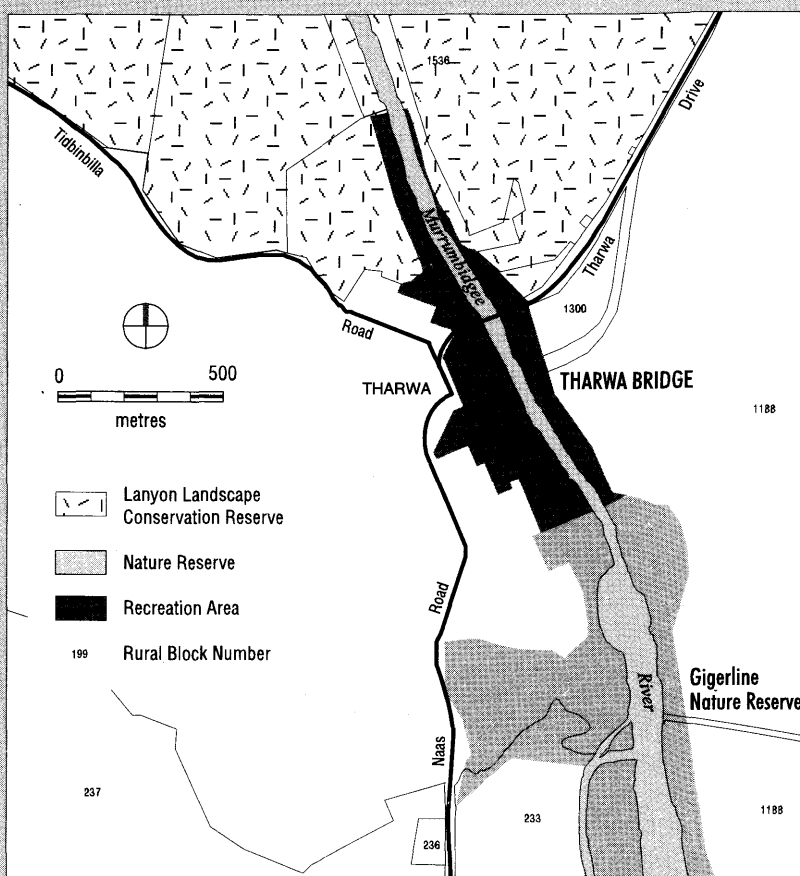


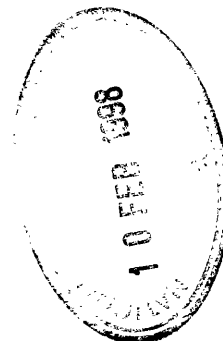
- Nature Reserve
- Recreation Area
- Rural Block Number

## Point Hut Crossing Recreation Area



## Tharwa Bridge Recreation Area





FEEL THE POWER OF CANBERRA