

**TARLO RIVER NATIONAL PARK
PLAN OF MANAGEMENT**

NSW National Parks and Wildlife Service

August 1998

Acknowledgements: This plan of management was prepared by staff of the Field Services Division and Nowra District with the assistance of specialists in other sections of the Service.

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FOREWORD

Tarlo River National Park is located in the Southern Tablelands of NSW about 30 km north-east of Goulburn and has an area of 8074 ha.

Most of the park consists of steep forested country along the northern part of the Cookbundoon Range and rugged land east of the range. The Tarlo River meanders south to north through the park, creating a 40 km long gorge. Several uncommon plant communities and threatened plant and animal species occur, and the park has extensive areas of koala habitat, although the presence of koalas has not yet been confirmed.

The primary requirements for protection of the native plant and animal communities of the park are protection from frequent or regular fire and control of feral goats, foxes and cats. Fire and pest management programs will be implemented in the park.

A few Aboriginal camp sites have been recorded in the park and many more sites are expected to occur. Fencelines, clearings, house remains, a shale quarry and diggings provide evidence of previous grazing and mining activities in the park. Aboriginal sites and historic places will be conserved and the Aboriginal community will be consulted about all aspects of management of Aboriginal values.

The park has the potential to be a valuable area for extended walking and pack camping and such use will be permitted through most of the park. A short walking track will be constructed to an interesting area of conglomerate outcrop near the southern boundary.

This plan of management establishes the scheme of operations for Tarlo River National Park. In accordance with the provisions of Section 75 of the National Parks and Wildlife Act, 1974, this plan of management is hereby adopted.

PAM ALLAN

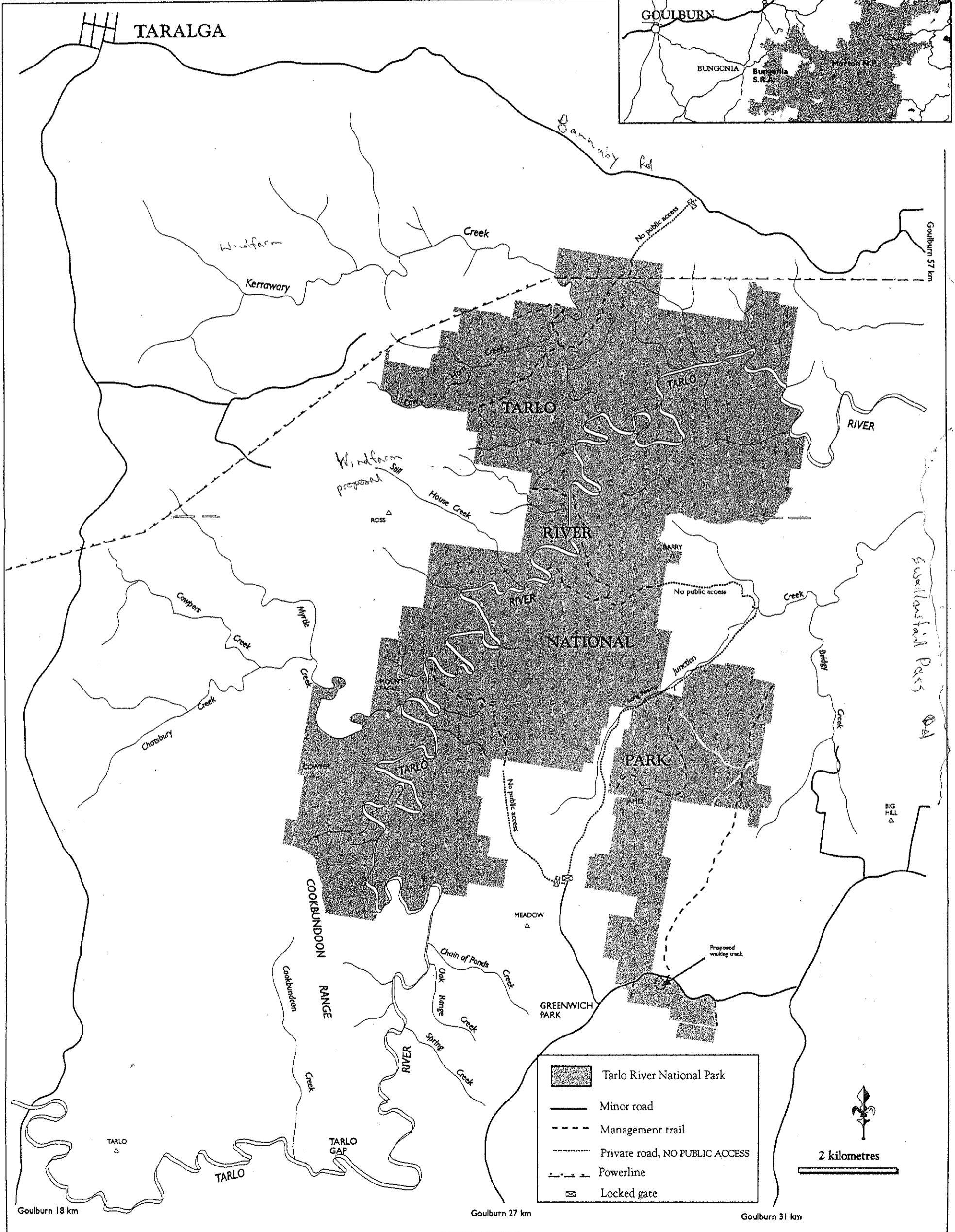
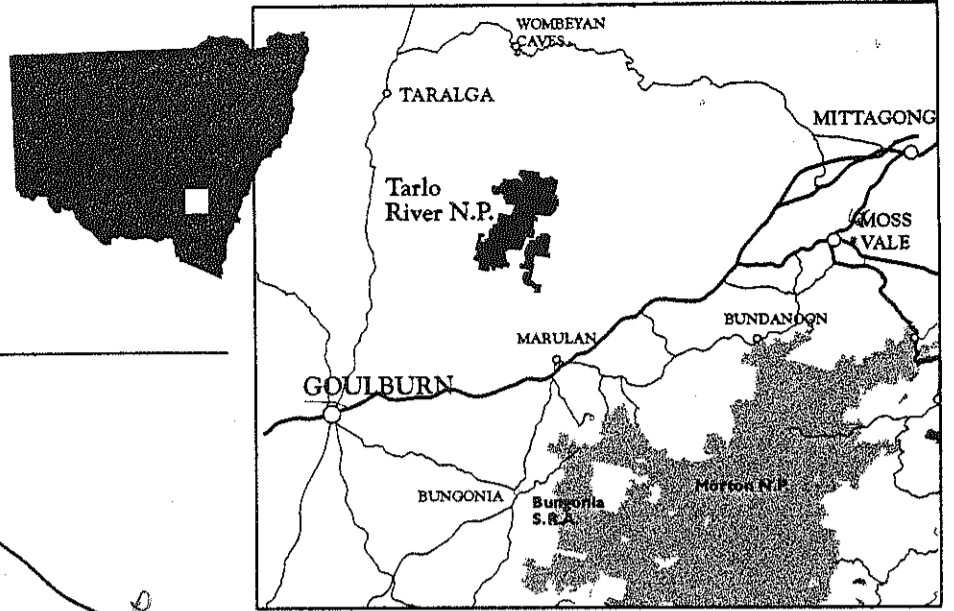
Minister for
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CONTENTS

| | page |
|---|-------------|
| 1. INTRODUCTION | 1 |
| 2. MANAGEMENT CONTEXT | 2 |
| 2.1 NATIONAL PARKS IN NSW | 2 |
| 2.2 TARLO RIVER NATIONAL PARK | 2 |
| 2.2.1 Location, Reservation and Regional Setting | 2 |
| 2.2.2 Importance of Tarlo River National Park | 2 |
| 3. OBJECTIVES OF MANAGEMENT | 4 |
| 3.1 GENERAL OBJECTIVES FOR NATIONAL PARKS | 4 |
| 3.2 SPECIFIC OBJECTIVES FOR TARLO RIVER NATIONAL PARK | 4 |
| 3.3 OVERALL STRATEGY | 4 |
| 4. POLICIES AND FRAMEWORK FOR MANAGEMENT | 5 |
| 4.1 NATURAL HERITAGE | 5 |
| 4.1.1 Geology, Landform, Soils and Water Quality | 5 |
| 4.1.2 Native Vegetation | 7 |
| 4.1.3 Native Animals | 9 |
| 4.1.4 Introduced Species | 11 |
| 4.1.5 Fire Management | 12 |
| 4.2 CULTURAL HERITAGE | 15 |
| 4.2.1 Aboriginal Sites | 16 |
| 4.2.2 Historic Places | 17 |
| 4.3 USE OF THE AREA | 17 |
| 4.3.1 Public Use and Promotion | 18 |
| 4.3.2 Research | 21 |
| 4.3.3 Management Operations | 22 |
| 5. PLAN IMPLEMENTATION | 24 |
| REFERENCES | 26 |

Tarlo River National Park

LOCATION MAP



1. INTRODUCTION

The National Parks and Wildlife Act, 1974, requires that a plan of management be prepared for each national park. A plan of management is a legal document that outlines how the area will be managed in the years ahead.

The procedures for the adoption of a plan of management are specified in the Act and involve five stages:

- * The Director-General gives notice that a plan of management has been prepared.
- * The plan is placed on public exhibition for at least one month and any person may comment on it.
- * The plan and copies of all representations are referred to the National Parks and Wildlife Advisory Council for consideration.
- * The Director-General submits the plan, together with the recommendations of the Advisory Council, to the Minister.
- * The Minister may adopt the plan after considering the recommendations of the Advisory Council or may refer the plan back to the Director-General and Council for further consideration.

A draft plan of management for Tarlo River National was placed on public exhibition for three months between 18th April and 14th July 1997. Twenty representations were received during the period of public exhibition which raised nineteen issues.

All comments received were referred to the National Parks and Wildlife Advisory Council for its consideration and advice. The comments and suggestions of the Advisory Council were, in turn, considered by the Minister before adopting this plan.

Once a plan has been adopted by the Minister, no operations may be undertaken within the national park except in accordance with the plan.

For additional information or enquiries on any aspect of the plan, please contact the Service's Nowra District Office at:

55 Graham St.
Nowra

or by phone on (02) 4423 9800.

2. MANAGEMENT CONTEXT

2.1 NATIONAL PARKS IN NEW SOUTH WALES

The national park concept was introduced into Australia through the establishment of Royal National Park in 1879.

The International Union for the Conservation of Nature and Natural Resources (IUCN) in 1994 defined a national park as:

"A natural area of land and/or sea, designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area, and (c) provide a foundation for spiritual, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible."

National parks are part of the regional pattern of land use. Many land uses, for example agriculture, forestry and mining, require substantial modification of the natural environment. Management of national parks, however, aims to minimise disturbance to natural and cultural resources.

2.2 TARLO RIVER NATIONAL PARK

2.2.1 Location, Reservation and Regional Setting

Tarlo River National Park is located in the Southern Tablelands of NSW about 30 km north-east of Goulburn (see inset on Summary Map). Most of the park consists of steep forested country along the Cookbundoon Range and the Tarlo River gorge.

The first section of the park was reserved in 1982 and subsequent additions have brought the area to 8074 ha. A substantial area of land in the centre of the park was acquired by a generous gift from the late Mrs Dorothy Florance of Bowral.

Much of the country surrounding the park has been cleared for grazing. There are more than 100 neighbouring properties and recent subdivision has occurred near the southern boundaries. The nearest towns are Goulburn, Taralga and Marulan. The north-east section of Mulwaree Shire is experiencing rapid growth.

2.2.2 Importance of Tarlo River National Park

Natural heritage

The park samples part of the Cookbundoon Range, Tarlo River gorge and heavily dissected country east of the range, a type of land system which does not occur elsewhere in the Goulburn district.

The Cookbundoon Range is an important landscape feature in the district and the park contributes to protection of its scenic value.

The outcrops of Permian conglomerate in the southeastern section of the park and on adjacent private land are uncommon and have produced an interesting sculptured landscape. Only two other outcrops occur in the district, at Gibraltar Rocks and Tallong.

On the area of Permian sediments, moist vegetation communities commonly associated with the coast meet with drier vegetation types of the west.

The conglomerate outcrops support a distinctive scrub community which contains the rare species *Acacia subtilinervis*. This may be its most northerly occurrence (Mills, 1992).

Well developed stands of Argyle apple *Eucalyptus cinerea* occur in the park. This species has a limited distribution.

Eucalyptus viminalis tall open forest along the Tarlo River is significant because of extensive clearing of this species where it usually occurs, on better agricultural land (Mills, 1992).

Small areas of *Allocasuarina nana* heathland occur in the southern part of the park. This is an uncommon community which is limited to the tablelands south of Sydney.

The threatened powerful owl *Ninox strenua*, koala *Phascolarctos cinereus*, yellow-bellied glider *Petaurus australis* and squirrel glider *Petaurus norfolcensis* have been recorded in the park. Tiger quoll *Dasyurus maculatus* sightings have been reported but not confirmed.

Platypus *Ornithorhynchus anatinus* are frequently seen along the Tarlo River.

Wild River

The state government is currently considering legislation for declaration of wild and scenic rivers in New South Wales. Criteria are yet to be established but it is considered likely that the Tarlo River would qualify for classification as wild and scenic. It flows for a distance of 40 km through the national park in a scenic gorge, and has rapids and good water quality. The river corridor is used for bushwalking and occasional canoeing and has no vehicle access apart from a management trail which crosses it at one location.

Cultural heritage

A few Aboriginal camp sites have been recorded in the park and many more sites are expected to occur.

Fencelines, clearings, huts, a shale quarry and diggings provide evidence of previous grazing, mining and extractive activities in the park. These are of local historic interest.

Recreational and educational value

The park receives only low levels of recreational and educational use at present as public access is limited to only one location near the southern boundary. The park contains very attractive and rugged landscapes suitable for extended walking and pack camping, particularly the Tarlo River gorge and its major tributaries and Permian conglomerate outcrops in the southeastern section of the park. It is likely to become an important location in the future for remote area recreational activities if further access can be arranged.

The park has the potential to be an educational resource for schools, community groups and Tertiary organisations in the area.

3. OBJECTIVES OF MANAGEMENT

3.1 GENERAL OBJECTIVES FOR NATIONAL PARKS

The following general objectives relate to the management of national parks in New South Wales:

- * protection and preservation of scenic and natural features;
- * conservation of wildlife;
- * maintenance of natural processes as far as is possible;
- * preservation of Aboriginal sites and historic features;
- * provision of appropriate recreation opportunities; and
- * encouragement of scientific and educational enquiry into environmental features and processes, prehistoric and historic features and park use patterns.

3.2 SPECIFIC OBJECTIVES FOR TARLO RIVER NATIONAL PARK

In addition to the above general objectives the management of Tarlo River National Park will be subject to the following more specific objectives:

- * maintenance of biodiversity;
- * protection of uncommon plant communities and species, particularly *Allocasuarina nana* heathland, *Eucalyptus cinerea* and Permian conglomerate communities;
- * maintenance of the habitat of threatened animal species;
- * protection and where necessary improvement of water quality in the Tarlo River and its tributaries; and
- * encouragement of community appreciation and understanding of the conservation values of the park and the need for responsible public use.

3.3 OVERALL STRATEGY

The overall management strategy of the park is controlled by the rugged topography and lack of public access. Most of the park will be maintained in a natural condition. Control of introduced species and fire management works will be undertaken to reduce the impact of fire and pests, particularly goats and foxes.

Walking and pack camping will be permitted through most of the park. Minimum impact bushwalking will be promoted, particularly responsible use of fire. A short walking track will be provided to an area of conglomerate outcrop at the southern end of the park.

4. POLICIES AND FRAMEWORK FOR MANAGEMENT

This chapter contains the policies and framework for the management of Tarlo River National Park together with relevant background information. Policies are summarised under the following section headings:

- 4.1 NATURAL HERITAGE
- 4.2 CULTURAL HERITAGE
- 4.3 USE OF THE AREA

The policies established in this plan of management will provide the framework for management consistent with anticipated resources available to the Service and anticipated community trends over the next five to ten years.

The actions identified are those to which priority will be given in the foreseeable future. Other management actions may be developed over the life span of this plan consistent with the policies set out in the plan.

Where not specifically provided for in this plan, management will also be in accordance with the National Parks and Wildlife Act and with general Service policies.

4.1 NATURAL HERITAGE

Natural heritage comprises all aspects of the natural environment including physical features such as geology and soils, plants and animals and the relationship between these. For convenience, management of landscape values and of fire are also considered in this section.

4.1.1 Geology, Landform, Soils and Water Quality

Geology

Most of Tarlo River National Park lies just outside the southwestern edge of the Sydney Basin. The southeastern section of the park lies on an area of the Snapper Point Formation, the western extent of the Sydney Basin in this area. This rock was previously known as the Megalong Conglomerate and contains distinctive outcrops of sculptured conglomerate.

Most of the park consists of folded Ordovician-Silurian sediments of mudstone and sandstone. The western boundary has a narrow band of Devonian Lambie Group sediments of sandstone, shale and slate, except in the Kerrawary Creek area which contains Silurian limestone, shale and quartzite of the Taralga Group. There is a small area of Tertiary basalt in the southwestern corner of the park.

Narrow bands of recent alluvial deposits occur along the Tarlo River and its main tributaries, Kerrawary Creek and Myrtle Creek.

Fossils of corals, brachiopods and crinoids have been found in the western area of the park.

Landform

The park lies on part of the northern section of the Cookbundoon Range and heavily dissected country east of the range. The Tarlo River winds for a distance of 52 km within the park, through a gorge east of the range. Kerrawary Creek and Myrtle Creek are large creeks which cut through the range to join the Tarlo from the west. Most of the southeastern section of the park drains to Junction Creek, a tributary of the Tarlo River

downstream of the park. The creek systems have created a complex of deeply incised gullies and steeply sloping hills.

Cliff lines occur along parts of the Tarlo River gorge and rocky bluffs are common elsewhere. Long, deep pools are a feature of the river.

The Cookbundoon Range is a major landscape feature in the district. It runs from northeast of Goulburn to east of Myrtleville and merges into the rugged catchment of the Wollondilly River. The highest point of the range lies within the park at Cowper Trig, 930m ASL. Protection of the forest cover on the range is vital for maintenance of its landscape value.

Water quality and catchment planning

The Tarlo River and its main tributaries drain grazing land. Water quality appears to be generally satisfactory, given the numbers of platypus observed along the river. Significant amounts of rubbish can be found in parts of the river, however, possibly as a result of dumping prior to reservation of the park or washed in from nearby private land. Identification of the source of rubbish is needed and water quality testing would be useful in order to identify any potential problems and provide a basis for comparison in the future. A recent heavy silt load in the river which took several months to clear, is of concern. The source could not be identified and may be an occasional occurrence resulting from a storm event on grazing land in the catchment. The Tarlo drains into the Wollondilly River and therefore contributes to the Sydney water supply system. Maintenance of high water quality is important for protection of habitat and catchment values.

The Catchment Management Act came into effect in 1989. Total catchment management provides an umbrella framework to promote, amongst other things, cleaner water, less soil erosion, improved vegetation cover, the maintenance of ecological processes and a balanced and healthier environment. It also provides a focus to balance conservation needs and development pressures and encourages a more aware and involved community. Recent water management reforms provide mechanisms for government and community involvement in setting river flow and water quality objectives and preparing river management plans. Working with local catchment management committees will be an important means for protection of water quality and flows in Tarlo River National Park.

Soils and quarries

Most of the park is steep, with thin, stony soils which are highly erodible following clearing or disturbance. A narrow band of deeper alluvial soil occurs in places along the Tarlo River and its major tributaries.

Fire and feral goats are potential causes of erosion in the park and will need to be managed (see sections 4.1.4 and 4.1.5). Erosion as a result of clearing and grazing activity is occurring in Long Swamp along Junction Creek. The erosion extends outside the park and its control will require a cooperative approach with neighbouring landholders.

Two road base quarries are present in the park south of the Greenwich Park Road. One is no longer used and is regenerating but the other requires reshaping to form a stable surface and is proposed to be developed as a car park for visitors (see section 4.3.1).

Small former slate quarries near Kerraway Creek are in a stable condition and will be allowed to naturally regenerate.

Policy

- * Erosion is recognised as a naturally occurring process in the park. Where erosion has been accelerated by human activity or is threatening significant habitats or other values, appropriate control measures will be undertaken.
- * All works will be designed and undertaken in a manner that minimises soil erosion.
- * The Service supports the principles of total catchment management and environmentally sustainable use of water resources. It will liaise with local government, local catchment management organisations and other authorities to maintain, or where necessary restore, the water quality of the park catchments and in preparation of river management plans.
- * The high landscape value of the Cookbundoon Range will be protected by maintaining forest cover and avoiding visually prominent development or works.

Action

- * The Service will seek to have erosion in Long Swamp arrested in conjunction with the Department of Land and Water Conservation and with neighbours.
- * The source of rubbish in the Tarlo River will be identified if possible and water quality information or testing will be sought.
- * The Service will seek to determine who opened the active quarry adjacent to the Greenwich Park road and discuss requirements for its rehabilitation.

4.1.2 Native Vegetation

A study of the vegetation of the park was undertaken in 1992 (Mills, 1992). This study mapped and described 12 vegetation types as summarised below. Further survey of the park would be likely to result in identification of more communities and uncommon species. In particular, further survey for uncommon species in the Permian conglomerate area is needed.

Ordovician sediments

Open forest and woodland communities of stringybarks *Eucalyptus agglomerata* and/or *E. macrorhyncha* occur on the ridges and dry slopes of most of the park. Common associated species are silvertop ash *E. sieberi* and brown stringybark *E. blaxlandii*. Grey gum *E. punctata* occurs with the stringybarks in the northern part of the park where rainfall is higher. Narrow-leaved peppermint *E. radiata*, argyle apple *E. cinerea* and long-leaved box *E. goniocalyx* occur occasionally. The understorey is open, particularly on western slopes, as a result of the cool dry climate, the occurrence of surface rock and previous fire. Common shrubs include peach heath *Lissanthe strigosa*, lance beard-heath *Leucopogon lanceolatus*, finger hakea *Hakea dactyloides*, narrow-leaf geebung *Persoonia linearis*, sunshine wattle *Acacia terminalis* and *A. obtusifolia*.

More sheltered slopes and gullies support brittle gum *Eucalyptus mannifera* - inland scribbly gum *E. rossii* forest and woodland communities. Common associated species are red stringybark *E. macrorhyncha* and blue-leaved stringybark *E. agglomerata* on upper and middle slopes and broad-leaved peppermint *E. dives* on lower slopes. Grey gum and argyle apple also occur. Scribbly gum woodland is almost mono-specific on broad, lower ridges and slopes and sometimes contains a dense layer of shrubs.

Associated with the scribbly gum woodland are patches of *Allocasuarina nana* heathland in the southwestern part of the park. This community is composed of a dense stand of *A. nana* with various other shrubs such as *Leptospermum* species.

Small areas of shrub and herb communities occur where surface rock or steep slopes prevent tree growth. The shrub communities commonly contain *Pultenea microphylla*, *Daviesia leptophylla*, *Hibberta* spp., *Indigofera australis*, *Patersonia sericea* and *Xanthorrhoea* sp. The herbfields are species rich, some common species being *Acaena anserinifolia*, *Dichondria* sp., *Drosera* sp., *Geranium* sp., *Glycine* sp., *Lissanthe* sp., *Ranunculus* sp., *Stellaria* sp., *Stylidium* sp., *Stypandra* sp., plus ferns and orchids.

Several forest communities occur in small areas on the moister and deeper floors of the valleys, particularly along the Tarlo River. Those identified are:

- manna gum *E. viminalis* tall open forest on and adjacent to alluvial flats;
- river peppermint *E. elata* open forest at the heads of some gullies in the northwestern and southeastern parts of the park;
- Blakely's red gum *E. blakelyi* - yellow box *E. melliodora* open forest on better soils such as in the Kerrawary Creek area;
- apple box *E. bridgesiana*, long-leaved box and coastal grey box *E. bosistoana* woodland on lower slopes and flats adjacent to the Tarlo River;
- Argyle apple woodland in small pure stands along valley floors and gentle slopes; and
- galleries of river oak *Casuarina cunninghamiana* along the Tarlo River and its major tributaries.

Small cleared areas occur at scattered locations in the park, primarily along the Tarlo River and adjacent to Kerrawary Creek near the park boundary. Regeneration is slowly occurring.

Permian sediments

Areas of Permian sediments in the southeastern section of the park support vegetation communities different to those found elsewhere in the park and which are uncommon in the district. Several species occur in very low numbers in this area. While they are widespread in other parts of the state and not endangered, inappropriate management could lead to their disappearance from the park and possibly the district. The rare species *Acacia subtilinervis* is found on the conglomerate outcrops.

Open forest of red bloodwood *Corymbia gummifera*, silvertop ash, grey gum and red stringybark with a sparse understorey occurs on the ridges and dry slopes. Open forest of blue-leaved stringybark with a moderately dense shrub layer is found on the more sheltered slopes. River peppermint, red bloodwood and blue-leaved stringybark forest occurs in the gullies, with a dense understorey of ferns. Other tree species in this area are inland scribbly gum, white stringybark *E. globoidea*, Sydney peppermint *E. piperita*, scribbly gum, manna gum, argyle apple, and Blue Mountains mallee *E. stricta*. Ground dwelling plants include forest phebalium *Phebalium squamulosum*, prickly shaggy pea *Ozylobium ilicifolium*, grass tree *Xanthorrhoea australis*, rock lily *Dendrobium speciosum*, spreading wattle *Acacia genistifolia*, sticky boronia *Boronia anemonifolia*, *Zieria cytisoides*, hairpin banksia *Banksia spinulosa*, *Pimelea linifolia* and *Patersonia glabrata*.

Connection to nearby naturally vegetated land

Much of the land west and east of the park has been cleared. The Cookbundoon Range south of the park is largely naturally vegetated and is likely to remain so because of its steep slopes. North of the park are large areas of steep forested land which provide a loose link to Blue Mountains National Park. Maintenance of these links is essential to the long term viability and conservation value of Tarlo River National Park.

Policy

- * Native vegetation will be managed to:
 - maintain floristic and structural diversity;
 - conserve endangered or uncommon communities and species;
 - encourage regeneration of areas previously cleared or grazed; and
 - maximise habitat values for native animal species.
- * Particular care will be taken during management operations to avoid vegetation damage in or near outcrops of conglomerate in the southeastern section of the park. Any recreation use of these areas will be managed to prevent trampling and other damage to the uncommon plant communities. The impacts of public use will be monitored.
- * The Service will liaise with neighbours and land use authorities to encourage retention of areas of native vegetation close to the park, particularly areas of Permian conglomerate and lands which link the park to Blue Mountains National Park.

Action

- * On-going survey of the park's vegetation will be undertaken as part of management programs. In particular, areas of *Allocasuarina nana* heathland, Permian conglomerate scrub communities, manna gum tall open forest and stands of Argyle apple will be mapped and uncommon plant species will be identified.

4.1.3 Native Animals

Only limited survey has been undertaken for native animals in the park. Further survey is particularly needed for reptiles, amphibians and threatened species.

Commonly occurring terrestrial birds in the park include the masked lapwing *Vanellus miles*, common bronzewing *Phaps chalcoptera*, gang-gang cockatoo *Callocephalon fimbriatum*, crimson rosella *Platycercus elegans*, fan-tailed cuckoo *Cuculus pyrrhophanus*, superb lyrebird *Menura novaehollandiae*, eastern yellow robin *Eopsaltria australis*, buff-rumped thornbill *Acanthiza reguloides* and yellow-faced honeyeater *Lichenostomus chrysops*.

Common water birds such as Australasian grebe *Tachybaptus novaehollandiae*, little pied cormorant *Phalacrocorax melanoleucos*, white-faced heron *Egretta novaehollandiae*, Pacific black duck *Anas superciliosa* and maned duck *Chenonetta jubata* utilise the pools of the Tarlo River and its major tributaries. The azure kingfisher *Ceyx azurea* has been recorded.

The raptors wedge-tailed eagle *Aquila audax*, Australian hobby *Falco longipennis*, brown goshawk *Accipiter fasciatus*, peregrine falcon *Falco peregrinus* and Australian kestrel *Falco cenchroides* have been recorded.

Mammals recorded in the park include the eastern grey kangaroo *Macropus giganteus*, common wallaroo *Macropus robustus*, swamp wallaby *Wallabia bicolor*, red-necked wallaby *Macropus rufogriseus*, common wombat *Vombatus ursinus*, platypus *Ornithorhynchus anatinus*, water-rat *Hydromys chrysogaster*, brown antechinus *Antechinus stuartii*, short-beaked echidna *Tachyglossus aculeatus*, greater glider *Petauroides volans*, sugar glider *Petaurus breviceps*, common ringtail possum *Pseudocheirus peregrinus*, common brushtail possum *Trichosurus vulpecula*, white-striped mastiff-bat *Nyctinomus australis* and lesser long-eared bat *Nyctophilus geoffroyi*.

As stated in section 2.2.2, the threatened powerful owl, koala, yellow-bellied glider and squirrel glider have been recorded in the park and relatively large numbers of platypus are found along the Tarlo River. Further occurrences of the high sediment load event discussed in section 4.1.1 could affect platypus and other aquatic animals.

Reptiles recorded include the red-bellied black snake *Pseudechis porphyriacus*, eastern brown snake *Pseudonaja textilis*, lace monitor *Varanus varius*, eastern water dragon *Physignathus lesueurii*, red-throated skink *Eulepis platynota* and the long-necked tortoise *Chelodina longicollis*.

Amphibians include Leseuer's frog *Litoria lesueurii*, spotted grass frog *Limnodynastes tasmaniensis*, brown toadlet *Pseudophryne bibronii* and common eastern froglet *Ranidella signifera*.

Wild dogs occur in the park and control programs are undertaken to minimise stock losses on neighbouring properties. Wild dogs can be divided into three groups - dingos, hybrids with domestic dogs and feral dogs. The Service considers the dingo to be part of the native fauna of NSW which it has a responsibility to conserve. The dingo is not a declared noxious species under the Rural Lands Protection Act 1989 as long as it remains on Service land. The Service recognises, however, that wild dogs (including dingoes) from Service lands sometimes impact on livestock on adjacent areas and accepts the need for management to minimise their attacks on stock. It is Service policy to remove feral dogs from its lands. Foxes may also be responsible for attacks on stock and these are controlled in conjunction with dogs (see section 4.1.4).

It is recognised that other native animals may affect neighbouring properties at times. Neighbours may apply for licences to destroy native animals on their properties where they can demonstrate an economic impact.

Policy

- * The diversity and high quality of habitats for native animals occurring in the park will be conserved.
- * Particular attention will be given to conservation of koala habitat when designing management programs, particularly fire management.

Action

- * On-going native animal survey will be undertaken as part of management programs carried out in the park. Observations will be recorded on the Atlas of NSW Wildlife.

- * Wild dog control will continue to be undertaken on the park boundaries to reduce the impact to livestock on adjoining land, in accordance with the Service's Field Management Policy on Wild Dogs.

4.1.4 Introduced Species

An introduced species is defined in this plan as any plant or animal species not native to the park. Introduced species within the park and on adjoining land are of concern because they have the potential to have detrimental effects on ecological values and can spread to and from neighbouring land.

Weeds

The Noxious Weeds Act 1993 took effect from 1 July 1993. The Act places an obligation upon public authorities to control noxious weeds on land that they occupy to the extent necessary to prevent such weeds spreading to adjoining lands.

Small amounts of blackberry *Rubus fruticosus*, horehound *Marrubium vulgare*, Bathurst burr *Xanthium spinosum*, St Johns wort *Hypericum perforatum*, hawthorn *Crataegus monogyna*, bamboo *Phyllostachys* sp. and hemlock *Conium maculatum* are found along the Tarlo River and major tributaries, particularly in cleared areas at Kerrawary Creek. Serrated tussock *Nassella trichotoma* and nodding thistle *Carduus nutans* are scattered through the park in small amounts. Some spraying of blackberry has been undertaken in the Kerrawary Creek area and control programs are in place for serrated tussock. Elimination of these species from the park is not feasible because of re-infestation from adjacent land via the watercourses or because of their sparse and scattered occurrence. They have been present since prior to reservation and do not appear to be spreading significantly. Monitoring will continue and significant infestations will be treated.

Isolated willow *Salix alba* and pine *Pinus* sp. trees occur along the river and must be removed because of their potential to spread. They are not confined to clearings and do not appear to have been planted. They are therefore not considered to have historic significance. Pasture weeds occur in cleared areas on the eastern side of Kerrawary Creek near the park boundary. Gradual regeneration is expected to reduce these.

Introduced animal species

Control of introduced animals is the most important management requirement for protection of native animal populations in the park, including threatened species. It is also important for prevention of damage to agricultural values on neighbouring land, particularly control of goats and wild sheep because of the threat of foot rot.

Small numbers of pigs were previously found in the park and were destroyed.

Goats are present in the park and have been subject to helicopter and ground control programs. In the past goats have caused noticeable vegetation damage and soil erosion. They continue in particular to threaten regeneration of the stands of river oak along the Tarlo and major creeks. Maintenance of riverine communities is vital to maintenance of water quality and of habitat values for the entire park. Goats are also of concern because of the potential for significant damage to stands of uncommon or rare plants which can occur on the rock outcrops favoured by goats. At present goats are kept at relatively low numbers by regular ground shooting.

Feral cats, foxes and rabbits are present. Foxes may have significant impacts on native animals and are thought to be partially responsible for the spread of weeds such as blackberry.

Some straying of domestic stock into the park has occurred as a result of inadequate boundary fences. Fencing assistance may be undertaken where possible within the Service's limited finances but additional control programs are needed for both foxes and cats.

Policy

- * Introduced plant species will be controlled where they:
 - have been declared noxious;
 - threaten the integrity of native communities;
 - may affect neighbouring lands;
 - are spreading significantly or have a high capacity for dispersal; and/or
 - are new isolated occurrences.
- * The cooperation of Mulwaree Shire Council and park neighbours will be sought in implementing introduced plant species control programs.
- * Introduced animals will be controlled where they have a significant impact on native species. Priority will be given to goats and pigs. Control programs will be designed to avoid impact on non-target species and will be undertaken in cooperation with the Goulburn Rural Lands Protection Board and neighbouring land holders where appropriate. As a safety measure, the park may be closed to public use during control programs.
- * Maintenance of effective fencing of boundaries with grazing properties will be encouraged. Fencing assistance may be provided where possible.

Action

- * Occurrences of pines, willows and blackberry will be destroyed and on-going monitoring will be undertaken to identify new infestations.
- * Goat control will continue to be undertaken to maintain numbers at low levels.
- * An introduced species control plan will be prepared and implemented, providing for integrated monitoring and treatment of introduced plants and animals.

4.1.5 Fire Management

Fire is a natural feature of the environment and is essential to the survival of some plant communities. Frequent or regular fire, however, can cause loss of particular plant and animal species and communities or favour certain species over others. Fire can also damage some types of Aboriginal sites and historic sites and threaten visitors and neighbouring land.

Management of fire in the park is an important and complex issue. Management must aim to achieve both long term conservation of natural communities and ongoing protection of life and property within and adjacent to the park.

Fire history

The pre-European fire history of the park is not known. Traditional fire practices of Aborigines in NSW have not been well researched and are therefore poorly understood.

Aborigines are likely, however, to have had burning regimes which encouraged grazing plants in areas in which they hunted game and kept corridors open in lands they travelled through. From research conducted elsewhere it appears likely that the frequency and intensity of fire now is different from traditional Aboriginal burning practices.

Extensive areas of the park were burnt in wildfires during 1965 and 1979. Both fires originated west of the park and traversed grassland to reach the park area. The park terrain causes fire to spread quickly when ground fuel loads are high and makes access difficult for suppression. It will be important to control fires on the western side if possible before they reach the park.

Fuel levels in the park are generally very low because of the sparse understorey. During extreme conditions, however, the park and neighbouring property can carry a wildfire and it is probable that large fires will continue to occur occasionally.

The park is still recovering from the 1979 fire which coincided with an extended drought period. The eastern slopes have become noticeably more heavily vegetated in recent years and continued regeneration will depend upon prevention of further fire for a number of years.

Since reservation only two very small fires have been recorded, both in the northern section of the park. The Service has been involved in suppression of several fires to the west of the park.

Ecological requirements

Fire frequency, intensity, season of occurrence and post-fire conditions are major factors influencing the distribution and composition of plant and animal communities. A variety of fire regimes is needed in order to conserve floristic diversity and provide diversity of habitat for animals. Fire management aims to maintain this diversity by restricting planned and, if possible, unplanned fires to only a part of the distribution of a vegetation type within the park at any one time. This approach will ultimately result in a mosaic of age classes for each of the vegetation types of the park.

The fire response of the uncommon and threatened plants in the park is not known. Many rare plants tend to be fire sensitive, however, and management should aim as far as possible to minimise the effects of fire in areas of rare species. Any prescribed burning on the eastern side of the park should avoid burning of areas of Permian Conglomerate outcrop because of the presence of rare and uncommon plant species in these areas.

Certain species and communities may also be significantly affected by fire retardants and wetting agents and their use should be avoided in environmentally sensitive areas.

Strategies and cooperative arrangements

The two dominant fire threats are fires originating west of the park, which could threaten large areas of the park and private land, and lightning strikes in the rugged core. Increased public use of the park could increase the risk of fire ignition and it will be important to encourage responsible management of campfires (covered in section 4.3.1).

A variety of fire management strategies have been developed including fuel reduction, fire trails, detection and cooperative arrangements. Some, or at times all, of these will be applied where appropriate to best protect life, property and natural and cultural assets within and adjacent to the park. In particular, close to boundary areas, fuel reduction programs, boundary fire breaks and fire trail systems will be designed and

carried out in cooperation with neighbours. Existing maintained fire trails are shown as management tracks on the Summary Map. There are also several other old trails which can be re-opened if necessary during fire suppression operations.

The low fuel levels make it difficult to achieve satisfactory prescribed burns. Maintenance of reduced fuel zones or fire breaks along the eastern and if possible the western boundaries will be important, however, in order to reduce the intensity of fire leaving the park and the likelihood of fire entering the park.

The fire management plan to be prepared for the park will detail fire management strategies and programs, including review of the track system.

Under the Rural Fires Act the Service is a fire authority and is responsible for controlling fires in the park and ensuring that they do not cause damage to other land or property. An important part of the Service's fire management is participation in local co-operative fire management arrangements. Mulwaree District Bush Fire Management Committee aims to coordinate fire management and fire control on a district basis. To implement these responsibilities, the committee has prepared a plan of operations and a bush fire risk management plan which are required under Section 52 of the Rural Fires Act.

These plans contain an introduction and address operational arrangements, fuel management planning and include a resources directory. The commitments each organisation makes in these plans are legally binding. The plans recognise the need to systematically map or otherwise identify all environmental resources, including vegetation, topography, and aboriginal or historic heritage sites.

The Service contributes to these plans by providing preferred fuel management prescriptions for areas it manages. The fuel management plan is subject to annual review.

Bushfire suppression operations may require the construction of temporary trails, helipads and firelines. These will be closed and rehabilitated as part of post fire operations.

Policy

- * Fire will be managed in accordance with a fire management plan and the principles below to ensure:
 - protection of human life and property within and adjacent to the park;
 - conservation of rare, threatened and biogeographically significant plant and animal species and communities;
 - maintenance of plant and animal species and communities through the provision of fire regimes compatible with their conservation; and
 - protection of Aboriginal sites and historic places.
- * Low fuel levels or a fire break will be maintained where feasible along the western and eastern boundaries.
- * Prescribed burning will not be undertaken in areas of Permian conglomerate outcrops unless it is found by research to be necessary for maintenance of the uncommon species found in these areas.

- * Use of heavy machinery for fire suppression will be avoided in the vicinity of *Allocasuarina nana* heathland, Argyle apple stands, rare plants, Aboriginal sites and historic places.
- * Use of fire retardants will be avoided in areas of *Allocasuarina nana* heathland and rare plants. Use of wetting agents will be avoided in these areas where possible until research has shown whether such chemicals can be used without significant effect on these species and communities.
- * As far as possible, areas disturbed by fire suppression operations will be rehabilitated as soon as practical after the fire.
- * Records and maps will be maintained of all fires as they occur.
- * Research will be encouraged into the ecological effects of fire in the park, particularly the fire response of threatened and uncommon species and communities.
- * Close contact and cooperation will be maintained with volunteer bush fire brigades, Council fire officers and other fire authorities. The Service will continue to actively participate in the Mulwaree District Bush Fire Management Committee.
- * As far as possible fuel management will be carried out in co-operation with neighbours for mutual protection and neighbours will be encouraged to implement Community Fireguard practices on their land.
- * Neighbours will be encouraged to implement community fire guard practices.
- * Land use planning and development authorities and private developers will be encouraged to incorporate boundary fire breaks and other fuel reduction measures in any development adjacent or in proximity to the park.
- * The park may be closed to public use during periods of extreme fire danger.

Action

- * Maps will be prepared showing areas where use of heavy machinery and fire control chemicals is to be avoided.
- * A fire management plan will be prepared for the park by July 2002 detailing life, property and natural and cultural resource protection principles, strategies and programs, co-operative arrangements and fire trail network requirements. The fire management plan will be placed on public display before finalisation
- * Annual fuel reduction and trail maintenance programs will be prepared and implemented in accordance with the policies outlined above, the fire management plan and fuel management plans prepared under section 52 of the Rural Fires Act.

4.2 CULTURAL HERITAGE

Cultural heritage includes both Aboriginal and non-Aboriginal history. It comprises important components of the environment that may have aesthetic, historic, scientific and social significance to present and future generations.

4.2.1 Aboriginal Sites

The area of the park was part of the territory of the Gandangara Aboriginal language group. Today it falls into the area of the Pejar Local Aboriginal Land Council.

Several Aboriginal sites have been recorded in the park; all open camp sites along watercourses and ridgelines. It is likely that many more sites exist and, because of the limited knowledge to date, it will be important to undertake site survey prior to any management operations involving ground disturbance.

Archaeological sites are important to Aboriginal communities as they are a testament to their culture's great antiquity. Aboriginal people may have traditional spiritual links with an area and hold knowledge which is important for nature conservation.

While the Service presently has legal responsibility for the protection of Aboriginal sites it acknowledges the right of Aboriginal people to make decisions about their own heritage. It is therefore policy that Aboriginal communities be consulted about decisions regarding the management of Aboriginal sites and related issues and how the Aboriginal culture and history of an area controlled by the Service will be promoted and presented.

Policy

- * The Pejar Local Aboriginal Land Council and other relevant Aboriginal community organisations will be consulted and actively involved in all aspects of management of Aboriginal sites and values in the park.
- * Aboriginal people will be permitted to carry out activities in the park related to maintenance of traditional links to the land. Any such activities must comply with the objectives and policies of this plan of management and have minimal environmental impact.
- * Aboriginal sites will be protected from disturbance or damage by human activities.
- * All works involving ground disturbance will be preceded by a survey for Aboriginal sites.
- * All Aboriginal sites located during management operations will be recorded.
- * The location of Aboriginal sites will not be publicised except where:
 - the agreement of the Pejar Local Aboriginal Land Council and other relevant Aboriginal community organisations has been obtained;
 - a conservation study has been prepared and any management works necessary to protect the site from damage have been implemented; and
 - the site will be interpreted to promote public knowledge and appreciation of Aboriginal culture.

4.2.2 Historic Places

Little is known about the history of the area of the park since European settlement. Dr Charles Throsby passed north of the area during an exploratory trip in 1819 and is said to have visited one of the early land grants with Governor Macquarie and George Meehan on the eastern side of the park the following year. This was a grant of 10 000 acres between Junction Creek and the Tarlo River to Hannibal Hawkins Macarthur.

During 1820 a party led by Commissioner Bigge travelled parallel to the western side of what is now known as the Cookbundoon Range. The earliest land grant on the western side of the park, appears to have been in 1823 to Thomas Matthews Moore on Myrtle Creek.

Much of the park has been subject to grazing, as illustrated by the presence of old fencelines, clearings and introduced species. A small set of yards is located above Kerrawary Creek. Some timber felling has been carried out in the park for fencing and farm building construction.

The remains of a house are located adjacent to the Tarlo River at the end of the Mount Eagle fire tail. Local residents report that the area was farmed by a Mr Potter during the 1930s depression. A possible hut site containing a concrete slab, old brick, stone and corrugated iron is located close to the eastern boundary of the park north of Greenwich Park Road. The history of this site is not known.

Some mining and extractive operations have taken place in the park. As stated in section 4.1.1 former small shale mines are located close to the park boundary at Kerrawary Creek and road base quarries adjacent to the Greenwich Park Road. A horizontal shaft and surface diggings are located in the southern part of the park near the Tarlo River. This may be a result of small scale gold mining. Part of the park was included in the Argyle Camden and King Gold Field proclaimed in 1881.

Policy

- * The historic places of the park will be conserved in accordance with the Burra Charter of Australia ICOMOS.

Action

- * Historic places will be recorded.

4.3 USE OF THE AREA

The major categories of use that can be appropriate, to varying degrees, on Service areas are:

- education and promotion of the area, the Service and the conservation of natural and cultural heritage;
- certain types of recreation;
- research; and
- management operations, by the Service itself and other authorities with statutory responsibilities in the area.

The extent to which these categories of use will be provided for in Tarlo River National Park is indicated below.

4.3.1 Public Use and Promotion

Access

Public vehicle access to the park is available only from the Greenwich Park Road, which crosses the southeastern corner of the park (See Summary Map). From here,

visitors must walk into the park, unless they obtain permission from landowners to drive to the park boundary at other locations.

A number of 4WD management tracks run through the park. Public use of these tracks is not permitted for the following reasons:

- vehicle access is through private property which requires the consent of the landowner;
- the park is relatively small and of high value for both conservation and for moderate to long distance bushwalking;
- areas of rare and uncommon plants which occur in some parts of the park are very vulnerable to disturbance;
- the tracks are steep, with high potential for erosion and track damage if used regularly or after wet weather; and
- because of the rugged topography, there are few sites suitable for providing recreation facilities and none within the centre of the park along the Tarlo River.

Existing Use

Because of the lack of vehicle access, the park receives only low levels of public vehicular use. Groups such as secondary and tertiary students, bird watchers and conservation organisations gain access to some parts of the park with the permission of the Service and adjacent landowners. The Kerrawary Creek area near the western boundary was the location most commonly used in the past as it has a relatively large level cleared area adjacent to the creek. Vehicle access to Kerrawary Creek through private property is no longer available, however, and the area is now little used. Trespass onto private property and illegal vehicle use of the management tracks occur occasionally.

An annual endurance horse riding event and a pony club ride have been undertaken through the Kerrawary Creek area of the park for some years. These traditional events will be permitted to continue with approval in advance from the Service and consent for access from neighbours, subject to monitoring of any damage caused by the events. More frequent horseriding or horse camping are not appropriate because of the high potential for erosion and the introduction and spread of weeds.

Occasional vehicle access into the Kerrawary Creek area has resulted in creation of tracks and destruction of vegetation. Such use is not appropriate for a national park. Some illegal use of the management tracks and trespass onto private property also occur.

Appropriate use and provision of recreation facilities

The most scenic and recreationally attractive sections of the park are the Permian conglomerate outcrops, Tarlo River gorge, Kerrawary Creek and Myrtle Creek. The rugged topography and very long length of the Tarlo River within the park provide a feeling of remoteness and make the gorge of high value for extended walking and pack camping, despite the small size of the park. Similarly, Kerrawary Creek and Myrtle Creek are very attractive for walking and provide access to the river. Walking and pack camping are considered to be appropriate uses of the park but are hindered at present by the lack of public access to the park boundary.

As stated above, a level cleared area at Kerrawary Creek near the park boundary is currently used for camping by school and community organisations. The Kerrawary

Creek area is the only part of the park which would be suitable for provision of parking for day or overnight walks into the Tarlo River gorge and possibly for construction of low key picnic and camping facilities. Provision of facilities in this area is not currently proposed, however, because public access is not available and because of concerns about the risk of fire escape.

Walking and pack camping are considered to be appropriate uses of the park. Legal foot access to the park is available along road reserves in the northwest, north, centre and southeast of the park but there are no formed tracks. Tarlo National Park will provide for self-reliant walkers who can utilise maps to find their way. For those requiring easier or marked access, many walking opportunities are available in nearby Morton National Park and Bungonia State Recreation Area. Continued educational use of the Kerraway Creek area may be permitted, however, by prior arrangement with the Service and subject to organisations obtaining consent for access from neighbouring landowners.

Cycling is an appropriate use of the park, although use is limited because of the lack of public vehicle access and the steepness of the tracks within the park. For environmental protection reasons cycling within the park must be restricted to management vehicle tracks and riders must obtain permission from adjacent property owners to access the park if seeking to use vehicle tracks on their properties.

Outcrops of conglomerate in the small area of park south of the Greenwich Park Road are easily accessible and the only feasible location to provide recreational or educational facilities in the park. This area is likely to receive an increasing amount of use in the future. Provision of a formal track, viewing area and interpretive information about the area's significance may reduce informal use and hence damage. As well as the conglomerate outcrops the area features ferny gullies and filtered views to the south. A suitable location for the beginning of a walking track would be the working quarry discussed in section 4.1.2. A parking area could be constructed in conjunction with rehabilitation of the quarry. Survey and design for protection of rare plant species and Aboriginal sites will be needed prior to construction of the walking track.

Large outcrops of Permian conglomerate in the southeastern section of the park are scenically interesting and a potential destination for walkers. Uncommon vegetation communities on the outcrops are, however, highly vulnerable to trampling because of the desire of visitors to climb to the top to see the view. Visitation to the main area of conglomerate (north of the Greenwich Park Road) will not be promoted therefore and camping and wood fires will be prohibited in order to reduce the risk of unscheduled fire.

The park may be an attractive location for commercial guided walking tours, if private companies can negotiate access arrangements with park neighbours. Any such use would be subject to Service consent and provisions designed to protect the scenic and natural values of the park.

Promotion of the park

Promoting public awareness of the Service's conservation responsibilities, the values of an area and recreational opportunities is an important aspect of management of visitor use. Because of the limited opportunities for public use of Tarlo River National Park, extensive promotion of use is not appropriate at present. Following provision of the short walking track discussed above, however, preparation of a park brochure will be necessary.

The Permian conglomerate area of the park north of Greenwich Park Road was formerly "Bush Bottoms Wildlife Refuge" and used for small scale guided tours. The largest outcrop has a number of plant signs, picnic benches and a pit toilet remaining

from this use. These facilities are in poor condition and should be removed since they conflict with the natural values of the area, attract people to this area and provide inaccurate information.

Policy

- * It is recognised that the only public vehicle access to the park is on the public road through Greenwich Park. Public vehicle access will not be permitted within the park except by prior consent of the District Manager for legitimate research purposes.
- * Walk-in camping will be permitted in the section of the park west of Junction Creek but not in areas east of the creek. If unacceptable impacts occur, camping may be further restricted.
- * Cycling will be permitted on the park management tracks but consent must be gained for access to the park through private property.
- * Horseriding will not be permitted, with the exception of the annual endurance horse ride and Taralga pony club ride which have traditionally been undertaken through the Kerrawary Creek area of the park. Continued staging of these events in the park will be subject to the Service being satisfied that no environmental damage is occurring and removal of any signs, litter etc resulting from the ride. Horse camping will not be permitted. Service consent will be required for the rides.
- * Wood fires will not be permitted in the section of park east of Junction Creek and will be prohibited throughout the park during the statutory bush fire danger period each year or as determined by the Mulwaree District Bushfire Management Committee.
- * Promotional and interpretive material prepared for the park will be designed to promote minimal impact bushwalking practices and responsible use of fire. Use of fuel stoves, the need to vary campsites and the risk of rock fall along the Tarlo River gorge will be included in information where relevant. Visitation to the area of conglomerate north of the Greenwich Park Road will not be promoted and controls may be placed on use of this area if found necessary to protect the sensitive vegetation communities.
- * Nature study and adventure programs by commercial, government and community organisations may be permitted subject to the following:
 - no unauthorised public vehicle use of management tracks will be permitted;
 - permission must be gained from private landowners for access where necessary through their property;
 - walking routes and pack camping sites will be varied to minimise vegetation damage and other impacts;
 - limits will be placed on group sizes and frequency of use to minimise environmental impacts and conflicts with other park users;
 - use of minimum impact bushwalking and safe practices will be required;
 - program leaders will be required to have adequate qualifications, experience and knowledge of the area;

- programs will be required to include interpretation of the park environment and promotion of understanding of conservation requirements and minimum impact practices;
- prior notice will be provided to the Service of routes, activities, frequency, group sizes and any other information deemed necessary; and
- licences will be altered or revoked if unacceptable environmental impacts are found to occur.

Action

- * To reduce visitor impact, and subject to satisfactory environmental assessment, a loop walking track will be constructed from the most easterly quarry on the Greenwich Park Road to the area of Permian conglomerate outcrop south of the road. An interpretive sign will be provided at the track head.
- * An information brochure will be prepared for the park explaining the limited public access, outlining the values of the park and providing information on the walking track to be constructed at the southern end of the park. The brochure will encourage visitors to act responsibly with regard to fire.
- * Park boundary signs will be erected adjacent to the Greenwich Park Road.
- * Structures in the Permian conglomerate area remaining from former tourism use will be removed.

4.3.2 Research

The purpose of scientific study in the park is to improve understanding of its natural and cultural heritage and the processes which affect them. Research also establishes the requirements for management of particular species.

The Service has only limited staff and financial resources for research and efforts must be directed towards the areas of greatest need. Research by other organisations, students, community groups and individuals may provide valuable information for management and is encouraged. A prospectus will be prepared to guide involvement of other organisations in priority research areas. Some important research topics have been mentioned in earlier sections of this plan.

Policy

- * Tarlo River National Park will be available for appropriate research.
- * Research will be undertaken by the Service to improve information about the natural and cultural heritage of the park, in order to ensure appropriate management.
- * Researchers from other organisations will be encouraged to undertake programs to provide information which is directly useful for management purposes.
- * Liaison will be maintained with researchers to obtain as much mutual information and assistance as possible. The results of research will be required to be provided to the managers of the area.

- * Research structures and long term markers must be placed in locations which will minimise their visual impact and be removed upon completion of the research.

Action

- * A prospectus will be prepared as a guide to preferred research projects in the park. Preferred topics will be those of direct relevance to management and will include:
 - plant community survey;
 - survey for rare and threatened plant and animal species;
 - Aboriginal site survey; and
 - the fire response of rare plants.

4.3.3 Management Operations

Management of the park is undertaken from Bungonia State Recreation Area, east of Marulan. Vehicle tracks and a helipad are the only Service management facilities currently located in the park. Some short vehicle tracks within the park south of the Greenwich Park Road are not needed for management purposes and will be allowed to regenerate.

At present legal vehicle access for management purposes is not available to the park except at the Greenwich Park Road. Most of the park neighbours have kindly permitted management access through their properties but in the longer term it will be necessary to ensure legal management access, perhaps through a right of way arrangement.

Road reserves located within park should be closed and added to the park to ensure future protection of the significant natural values of this area.

Movement of stock is necessary from time to time across a small section of park on Junction Creek, between adjacent sections of private property. Some fencing may be needed to confine stock movement to a small area.

A 330 kv transmission line crosses the park near the northern boundary and a low voltage line crosses the edge of the section south of the Greenwich Park Road. Access and maintenance agreements are needed to ensure that clearing under the lines is minimised to permit wildlife movement. A telephone line is located in the park adjacent to the Greenwich Park Road. Any additional alien facilities, particularly through the rugged centre of the park or Permian conglomerate areas, would be likely to have high environmental impact and would not be appropriate.

Three trigonometrical stations are located in the park. The trig reserves have been revoked and the stations are in disrepair.

Policy

- * Management tracks shown on the Summary Map will be maintained to a high standard of stability and access.
- * The management track system will be for use by authorised vehicles only.
- * The helipad will be maintained.

- * Close liaison will be maintained with park neighbours to deal with matters of mutual concern.
- * New works, facilities or operations proposed by any organisation or individual will not be permitted unless they are consistent with the purposes of reservation of the park and this plan of management.

Action

- * Management tracks will be gated where necessary to prevent unauthorised use. Similarly, tracks not needed for management purposes will be blocked where necessary to prevent use and allow regeneration.
- * Legal management vehicle access will be sought through private property to the park management track system.
- * Access and maintenance agreements will be arranged for the power lines and telephone line which cross the park.
- * The Service will seek the closure and addition to the park of the road reserves within the park.
- * Fencing will be erected as necessary to control stock movement across the park along Junction Creek. The fencing will be designed to permit native animals to pass through it.

5. PLAN IMPLEMENTATION

This plan of management is part of a system of management developed by the National Parks and Wildlife Service. The system includes the National Parks and Wildlife Act, management policies, established conservation and recreation philosophies, and strategic planning at corporate, regional and district levels.

The implementation of this plan will be undertaken within the annual programs of the Service's Nowra District. Priorities, determined in the context of district and regional strategic planning, will be subject to the availability of necessary staff and funds and to any special requirements of the Director-General or Minister.

District programs are subject to ongoing review, within which, works and other activities carried out in Tarlo River National Park are evaluated in relation to the objectives laid out in this plan.

The environmental impact of all development proposals will continue to be assessed at all stages of the development and any necessary investigations undertaken in accordance with established environmental assessment procedures.

Section 81 of the Act requires that this plan shall be carried out and given affect to, and that no operations shall be undertaken in relation to the national park unless they are in accordance with the plan.

No term is proposed for this plan of management. If after adequate investigation, operations not included in the plan are found to be justified, this plan may be amended in accordance with section 75(7) of the Act which requires that the proposed amendment be placed on public exhibition for comment and referred to the National Parks and Wildlife Advisory Council for its advice to the Minister.

As a guide to the implementation of this plan, relative priorities for identified activities are summarised below:

| ACTIVITY | PLAN REF |
|--|--------------|
| High Priority | |
| * Map <i>Allocasuarina nana</i> , manna gum and Argyle apple | 4.1.2 |
| * Continue goat, wild dog and fox control | 4.1.3, 4.1.4 |
| * Treat pines, willows, serrated tussock, hawthorn and blackberry | 4.1.4 |
| * Prepare and implement introduced species control plan | 4.1.4 |
| * Prepare map showing where to avoid use of heavy machinery and retarding and wetting agents | 4.1.5 |
| * Prepare fire management plan | 4.1.5 |
| * Undertake fuel reduction and trail maintenance as needed | 4.1.5 |
| * Close road reserves in park | |
| * Seek to have Long Swamp erosion arrested | 4.1.1 |

Medium Priority

- * Seek rehabilitation of road base quarry 4.1.1
- * Seek water quality information and source of rubbish in river 4.1.1
- * Carry out on-going plant and animal survey 4.1.2, 4.1.3
- * Record historic places 4.2.2
- * Prepare research prospectus 4.3.2
- * Gate management tracks and close and rehabilitate unnecessary tracks 4.3.3

Low Priority

- * Construct walking track south of Greenwich Park Road 4.3.1
- * Prepare information brochure for the park 4.3.1
- * Arrange access and maintenance agreements for power lines 4.3.3

REFERENCES

Goulburn Field Naturalist Society 1992 Letter to Mr K. Mills.

Mills, K & Associates Pty Ltd 1992 *Vegetation Mapping Project, Tarlo River National Park*, report to National Parks and Wildlife Service.

Slater, B 1984 *Tarlo River National Park Introduced Species Control Plan*, NPWS.

Slater, B 1986 *Interim Management Guidelines for Tarlo River National Park*, NPWS.

The Officer in Charge
Goulburn Rural Lands Protection Board
PO Box 67
GOULBURN NSW 2580

TARLO RIVER NATIONAL PARK DRAFT PLAN OF MANAGEMENT

The National Parks and Wildlife Service is preparing a draft plan of management for Tarlo River National Park. The park is located north of Goulburn and is shown on the accompanying map. It comprises diverse forest and woodland along part of the Cookbundoon Range and the Tarlo River gorge. Access is limited and there are currently no public facilities.

Interested individuals and community organisations are invited to contribute information and ideas relevant to management of the park. You may also like to have your name placed on a mailing list to receive the draft plan of management when it is published.

If you would like to send ideas and information or have your name included on the mailing list you should write to :

The District Manager
Tarlo River National Park Plan of Management
PO Box 707
NOWRA 2541

by Monday 1st July, 1996.

The officer in charge of management of Tarlo River National Park is located at Bungonia State Recreation Area. If you would like to discuss any aspect of management of the park you could contact the Bungonia Office on (048) 444 277.

Yours faithfully

P. Lunnon
for District Manager

TARLO RIVER NATIONAL PARK DRAFT PLAN OF MANAGEMENT

FINANCIAL IMPACT STATEMENT

OVERVIEW

Nowra District received a total allocation of \$3 844 817 during 1996-97. This comprised \$1 689 257 A1 salaries allocation, \$1 186 560 recurrent funds and \$969 000 capital works (including resource package funds).

The district has 43.6 permanent establishment staff positions. Additionally there are 7 business related staff at Minnamurra and 7 at Fitzroy Falls that occupy long term temporary positions and are funded from special purpose accounts.

It is estimated that Tarlo River National Park absorbs 0.5% of the district's financial and staff resources.

All programs proposed in the plan of management are in accordance with the Service's Corporate Strategy.

STAFF RESOURCES

Approximately 30 staff days per year are spent on management of the park, largely on feral animal control. Implementation of the plan of management will not require additional staff.

REVENUE

Tarlo River National Park has very limited public access and no facilities at present. It currently does not have the capacity to generate income.

PROGRAMS FUNDED BY RECURRENT FUNDS

On the basis of 0.5% of the total, \$5,900 of recurrent funds was allocated to the park for 1996-977.

Adoption of the plan of management will require funding of a number of programs from recurrent fund allocations. The following are of high priority:

- goat, fox and wild dog control each year \$3,000
- removal of pines, willows and control of blackberry \$3,000
- prescribed burning and trail maintenance each year as necessary \$3,000

A number of programs such as on-going plant and animal survey, recording of historic sites, preparation of an introduced species control plan, pursuing maintenance agreements for power lines and other programs which require staff time only, will be undertaken as opportunities arise.

OTHER MANAGEMENT PROGRAMS

All other works proposed in the plan of management will require funding from capital works, Resource Package or other sources. For the purpose of preparing this financial impact statement these programs have been assessed on the following basis.

- Programs that need to be done in the immediate to near future on the basis that to not undertake these works will result in unacceptable degradation of the resource and/or greatly increased costs associated with rehabilitation at a later date. These programs will appear on the current three year capital works or Resources Package programs.
- Programs which are given high priority for legal and public safety reasons or in accordance with directions from the Minister or the Director-General.
- Programs that can be deferred without unacceptable loss of natural and/or cultural heritage values. These programs may appear on later three year capital works programs.
- Programs which are proposed to be funded as part of regional or state-wide programing. Examples of this category of program include natural and cultural heritage conservation programs as well as visitor use monitoring. Such programs will generally be funded by allocation to the region or in some cases to head office divisions.
- Programs which are proposed for funding by means other than appropriation. Such programs include those that may be funded by grant, concession operation, sponsorship or other such means.

Capital Works and Resource Package

Adoption of the plan of management will require funding of a number of programs from capital works and Resource Package allocations. The following is of high priority for Tarlo National Park but is not scheduled for completion until June 2002 on the basis of district wide fire management planning priorities:

- | | |
|--------------------------------|----------|
| - prepare fire management plan | \$10,000 |
|--------------------------------|----------|

Other works are of lower priority and can be deferred:

- | | |
|--|---------|
| - gate management tracks and block tracks not needed | \$5,000 |
| - construct walking track south of Greenwich Park Rd | \$5,000 |
| - prepare information brochure for park | \$3,000 |

These costs are within the normal amounts of capital works and resource package funds expected to be received by Nowra District.

No additional plant will be required and there will be no significant additional maintenance commitment for existing plant as a consequence of works arising from the plan of management. Funding for plant replacement will be sought from existing Service allocations on a regional priority basis.

Regional or Head Office Support Programs

Planning and implementation of biodiversity surveys are subject to region-wide programming and will be funded as part of the regional allocation. Major programs concerned with fire research and programs concerned with visitor surveys and monitoring are part of state-wide programs and will be funded as part of head office allocations. Programs within these categories have not been specifically listed in the plan of management.

Programs Funded by Donations and Grants

Bushfire Council trail maintenance and fire management grants and miscellaneous donations such as from the National Parks Foundation, user groups etc. occur occasionally. No grants or donations were received for management of the park or reserve in 1996-97.

It is not expected that any programs included in the plan of management will be funded by grants or donations.

FINANCIAL IMPACT

Tarlo River National Park will continue to be managed within existing resources, with works being scheduled for undertaking as resources become available.

TARLO RIVER NATIONAL PARK

DRAFT PLAN OF MANAGEMENT

- **ISSUE:** The Director-General's approval for the public exhibition of the plan of management for Tarlo River National Park is sought.
- **ELECTORATE:** Tarlo River National Park lies within the Electorate of Burrinjuck, Mr. Alby Schultz (Liberal Party).
- **BACKGROUND:** The national park is located in the Southern Tablelands of NSW about 30 km north-east of Goulburn and has an area of 8074 ha. The plan provides that priority will be given to the protection of native plant and animal communities from frequent or regular fire and the control of feral goats, foxes and cats.
- The park has the potential to be a valuable area for extended walking and pack camping and such use will be encouraged through most of the park. However, public vehicle access is very limited at present. A short walking track will be constructed to an interesting geological feature near the southern boundary.
- **CONSULTATION:** There is very little public use of Tarlo River National Park at present. Public access is limited to the south-east section of the park and neighbours generally are not prepared to allow vehicle access across their properties. Therefore, during preparation of the plan emphasis was given to consultation with neighbours and they were invited to make written comments on the management proposed for the park.
- Nowra District Advisory Committee has been involved in the preparation of the plan and the plan circulated in-house to specialist divisions and Southern Zone. Comments received from these actions were taken into account when finalising the plan.
- The plan of management has been circulated to all members of the Executive. The responses received concerned incidental issues, particularly the monitoring of the impact of any public use of Aboriginal sites and protection of scarred trees from fire. The plan, however, does not propose public access to Aboriginal sites at this stage in the absence of Aboriginal community interest in such an activity. Only two sites have been recorded in the park to date, neither of them are scarred trees and the protection of scarred trees will be addressed if any are found in the park and when the detailed fire management plan is prepared. No amendment to the plan is considered warranted.
- **CONTROVERSIAL ISSUES:** Because there is little public use of the national park and because emphasis was given to consultation with neighbours in the preparation of the plan, the plan is not expected to be controversial. No public access is proposed to be closed.

- **RECOMMENDATION:** It is recommended that the Director-General approve the public exhibition of the plan of management for Tarlo River National Park.
- A draft submission has been prepared for signature by the Director-General advising the Minister that a plan of management for Tarlo River National Park has been prepared and that the Director-General has approved that it be placed on public exhibition.

This submission is attached.

J.F.Starling
Planning Co-ordinator
(Extn 412)

Jeff Francis
Manager, Field Services Division

Alastair Howard
Executive Director Operations.

Director-General

TARLO RIVER NATIONAL PARK DRAFT PLAN OF MANAGEMENT

- **ISSUE:** A plan of management for Tarlo River National Park has been prepared in accordance with Section 72 of the National Parks and Wildlife Act and approved for public exhibition pursuant to Section 75(1) of the Act. The draft plan is attached "A".
- **ELECTORATE:** Tarlo River National Park lies within the Electorate of Burrinjuck, Mr. Alby Schultz (Liberal Party)
- **BACKGROUND:** The national park is located in the Southern Tablelands of NSW about 30 km north-east of Goulburn and has an area of 8074 ha. The plan provides that priority will be given to the protection of native plant and animal communities from frequent or regular fire and the control of feral goats, foxes and cats.
- The park has the potential to be a valuable area for extended walking and pack camping and such use will be encouraged through most of the park. However, public vehicle access is very limited at present. A short walking track will be constructed to an interesting geological feature near the southern boundary.
- A diagram showing the location of Tarlo River National Park is attached.
- **CURRENT POSITION:** There is very little public use of Tarlo River National Park at present. Public access is limited to the north-east section of the park and neighbours generally are not prepared to allow general vehicle access across their properties. Therefore, during preparation of the plan emphasis was given to consultation with neighbours and they were invited to make written comments on the management proposed for the park.
- A financial impact statement for the implementation of the plan of management if adopted in its present form is attached "B". The management of the national park is low key and it will continue to be managed within existing resources.
- To promote the exhibition of the plan:
 - three hundred copies will be published and distributed;
 - a press release will be prepared;
 - advertisements placed in the appropriate media.
- **IT IS RECOMMENDED** that Minister note the Director-General's approval to place the plan of management for Tarlo River National Park on public exhibition as outlined above.

ROBYN KRUK
Director-General

MINISTER FOR THE ENVIRONMENT