

ULANDRA NATURE RESERVE

PLAN OF MANAGEMENT

NSW National Parks and Wildlife Service

February 1994

Acknowledgements: This plan of management has been prepared by John Dunn and Peter Ingram of the Tumut Sub-District Office, and staff from the Recreation and Management Services Branch, Head Office, National Parks and Wildlife Service. Word processing was carried out by Karen Noble. The map was prepared by Lucy Gifford.

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FOREWORD

Ulandra Nature Reserve is located some 25 kilometres south-west of Cootamundra, near the village of Bethungra.

The nature reserve is located on the western foothills of the Southern Tablelands and alpine mountains of NSW on the margins of the south-western slopes. Immediately to the west of the nature reserve lies an undulating plain 200 to 300 metres above sea level. The landscape rises abruptly to over 750 metres at Mount Ulandra within the nature reserve. The highest peak in Australia, Mount Kosciusko (2228 metres) is only 180 kilometres to the south-south-east.

Ulandra Nature Reserve was dedicated in 1981 to protect a number of stands of Cootamundra wattle (*Acacia Baileyana*) and black cypress pine (*Callitris endlicheri*) which are typical of this part of NSW. The National Parks and Wildlife Service will manage the area to protect its natural, scenic and cultural values. A policy of minimum disturbance to the natural heritage of the reserve is to be emphasised.

The plan of management of the nature reserve, therefore provides for:

- emphasis on maintaining good relations with the reserve's neighbours;
- emphasis on the importance of the nature reserve as an area of remnant habitat for native plant and animal communities in the south-west slopes area of NSW; and
- emphasis on land care programmes such as fire control, soil conservation, catchment protection, weed and feral animal control.

The plan gives priority to completion of a vegetation survey and map and a fire management plan.

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

CHRIS HARTCHER

Minister for
the Environment

TABLE OF CONTENTS

	Page
SYNOPSIS	
1. INTRODUCTION	1
2. MANAGEMENT CONTEXT	2
2.1 Nature Reserves in New South Wales	2
2.2 Ulandra Nature Reserve	2
2.2.1 Location and Regional Setting	2
2.2.2 Importance of Ulandra Nature Reserve	3
3. OBJECTIVES OF MANAGEMENT	5
4. POLICIES AND FRAMEWORK FOR MANAGEMENT	6
4.1 Natural Resources	6
4.1.1 Landforms and Soils	6
4.1.2 Native Plants	7
4.1.3 Native Animals	8
4.1.4 Non-native Plants and Animals	9
4.1.5 Water	9
4.1.6 Grazing	10
4.1.7 Fire Management	10
4.2 Cultural Resources	12
4.3 Use of the Nature Reserve	13
4.3.1 Alien Tenures	13
4.3.2 Access and Recreation	13
4.3.3 Research	14
5. PLAN IMPLEMENTATION	15
MAP	Centre pages

1. INTRODUCTION

The National Parks and Wildlife Act, 1974, requires that a plan of management be prepared for each nature reserve. 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 for a nature reserve are specified in the Act:

- Where a plan of management has been prepared, the Director is required to refer the plan to the National Parks and Wildlife Advisory Council for its consideration and advice.
- The Director is then required to submit the plan to the Minister, together with any comments or suggestions of the Advisory Council.
- The Minister may adopt the plan without alteration, or with such alterations as he may think fit, or may refer it back to the Director and Council for further consideration.

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

Although not a requirement of the Act, the draft plan of management was distributed to neighbours of the nature reserve and to other individuals and organisations with an interest in its management for their comment on the proposals it contains. The plan was available for a period of three months early in 1991 for such comment.

The Ulandra Nature Reserve plan of management attracted 7 representations which raised 19 issues. The plan was not controversial.

All comments received were referred to the Advisory Council along with the plan, for its consideration and advice. Comments and suggestions of the Advisory Council were, in turn, considered by the Minister when adopting this plan.

For the sake of simplicity much background and resource information has been excluded from this plan. Anyone seeking additional information should contact:

Tumut District Office
National Parks and Wildlife Service
76 Capper Street,
TUMUT 2720.

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2. MANAGEMENT CONTEXT

2.1 NATURE RESERVES IN NEW SOUTH WALES

The concept of reserving areas to include nature conservation as a general purpose was introduced into Australia with the establishment of Royal National Park in 1879, some seven years after the world's first national park was created at Yellowstone in the United States of America. Fauna reserves were first established under the Fauna Protection Act of 1948 which was replaced by the National Parks and Wildlife Act of 1967. Fauna reserves were reclassified as nature reserves by the latter Act. The 1967 Act has been replaced by the National Parks and Wildlife Act 1974.

Under this Act, nature reserves are areas of special scientific interest containing wildlife or natural environments or natural phenomena.

The purposes of nature reserves are defined in the Act as:

- (a) the care, propagation, preservation and conservation of wildlife;
- (b) the care, preservation and conservation of natural environments and natural phenomena;
- (c) the study of wildlife, natural environments and natural phenomena; and
- (d) the promotion of the appreciation and enjoyment of wildlife, natural environments and natural phenomena.

They differ from national parks which include as a major objective the provision of opportunities for outdoor recreation.

The value of nature reserves lies in their role as refuge areas, where natural processes, phenomena and wildlife can be studied and conserved.

2.2 ULANDRA NATURE RESERVE

2.2.1 Location and Regional Setting

Ulandra Nature Reserve is located 25 kilometres south-west of Cootamundra, near the village of Bethungra. The first stage of the reserve was dedicated in 1981 and progressively added to until 1983 by the purchase of undeveloped land adjoining the original area. At present it has a total area of 3 934 hectares.

Ulandra Nature Reserve is representative of the remnant uncleared open forests of the south-west slopes of NSW. It contains a variety of plant species which are now uncommon in the area due to agricultural clearing. Other natural remnant areas such as Combanning State Forest near Cootamundra are composed of an entirely different geology and vegetation. As an island of natural vegetation in an essentially agricultural landscape, the conservation and management of its resources will become increasingly important as time passes.

Access to the reserve is from a number of places. On the northern end, there is a two wheel drive standard road from the village of Bethungra. On the south-western side of the reserve there is access from the Nangus-Bethungra road to the television tower and Telecom installation on the summit of Mount Ulandra. This is a private road closed to the public by a locked gate.

At a number of other points on the boundary, fire trails give access to the reserve. These trails are on private property and are not generally accessible to the public.

Within the reserve there is a network of tracks constructed prior to acquisition (see map).

2.2.2 The Importance of Ulandra Nature Reserve

Ulandra Nature Reserve was established to protect a variety of natural features and to encourage scientific research into natural processes within the reserve.

Scenery: The reserve is dominated by Mt. Ulandra which rises some 450 metres above the surrounding countryside. The timbered hills and slopes with their prominent rocky outcrops add significantly to the reserve's scenic values.

Natural Features: Ulandra is important as a reference area in both regional and statewide contexts. It is the approximate centre of distribution of the Cootamundra wattle, *Acacia baileyana* and helps to ensure the future of this species in the wild. The reserve is also noted for the often dense stands of black cypress pine *Callitris endlicheri* which creates a mosaic effect among the predominantly eucalypt forest. Eight species of eucalypt have been recorded in the nature reserve, three of which are uncommon in the area. These species are white box *Eucalyptus albens*, red box *E. polyanthemos* and yellow box *E. melliodora*.

Natural Processes: The potential impact of fire on the various plant communities within the reserve is an important matter for further study.

The regeneration of areas previously cleared for grazing, and the stabilisation of eroded areas is also an important topic for further study.

Cultural Resources: A number of Aboriginal sites are recorded within the reserve, although their significance is not yet known.

Grazing, forestry and agriculture have also taken place to a limited extent on the nature reserve and evidence of these activities remains with the presence of old fencelines, stockyards, ground tanks and building sites.

3. OBJECTIVES OF MANAGEMENT

The following objectives generally relate to the management of nature reserves in NSW:

- * The protection and preservation of the scenic and natural features.
- * The maintenance of natural processes as far as possible.
- * The conservation of wildlife.
- * The preservation of Aboriginal sites and historic features.
- * The encouragement of scientific and educational enquiry into environmental features and processes, and pre-historic features.

In addition to the above, the following specific objectives also apply to the management of Ulandra Nature Reserve:

- * To maintain the nature reserve as an island of native plant and animal communities and to emphasise its importance as an area of remnant habitat for native plants and animals in the region.
- * To protect water catchments within the nature reserve from disturbance.
- * To control, and if possible, eradicate feral animals within the reserve.
- * To control and if possible eradicate noxious weeds within the reserve.
- * To co-operate with local government authorities, neighbours and other organisations in an effort to co-ordinate management of the reserve and surrounding lands.

4. POLICIES AND FRAMEWORK FOR MANAGEMENT

This section contains the policies and framework for the management of Ulandra Nature Reserve, together with relevant background information. Policies are summarised under three headings:

- * Natural Resources
- * Cultural Resources
- * Use of the Area

These policies provide a framework for management, consistent with the resources expected to be available to the Service and anticipated community trends for the next 5-10 years. The actions identified within this plan are those that will be undertaken in the next five years. Other management actions may be developed during the life of this plan in accordance with the policies set out in the plan.

4.1 NATURAL RESOURCES

4.1.1 Landforms and Soils

Ulandra Nature Reserve consists of a series of ridges, hills and valleys running roughly north-south. Mount Ulandra is a prominent feature of the locality. The generally rugged terrain within the reserve is a major reason it was never cleared for agricultural purposes. Palaeozoic granites are the primary rock outcrop and dominate the landscape for some distance around the reserve.

The erosion of the surface of the land and the erosion and deposition of soil is a natural process. The concern of management within the nature reserve, however, is to control and where possible eliminate the agents or causes of accelerated soil erosion and deposition. The nature reserve, in the past, has been subject to a number of such disturbances.

Soils throughout the reserve are of granitic derivation. On some gentler slopes there is an accumulation of washed soils. In localised areas there is significant surface compaction, often in association with stands of cypress-pine (*Callitris* spp.).

The stability of soils on the lower slopes is important to the continued regeneration and revegetation of the area and vice versa. Most of the soils are vulnerable to soil erosion and in some areas such as along the creek lines of the northern end of the reserve, they have been disturbed by grazing and other agricultural practices.

Policies

- * The landscape values of Ulandra Nature Reserve will be protected.
- * The nature reserve will be protected from further accelerated soil erosion and rehabilitation of eroded areas undertaken.
- * Catchment areas will be protected from disturbance.

Actions

- * In conjunction with the Soil Conservation Service of NSW, eroding areas will be monitored and managed to confine and control existing erosion problems.

4.1.2 Native Plants

Although soils within the reserve are generally of low fertility when compared with adjacent improved areas, there is a diverse and complex plant community.

The dominant structure of the vegetation within the reserve is open forest. Tree heights vary considerably and in some areas constitute a low open forest. Dense stands of black cypress pine, *Callitris endlicheri*, occur throughout the eucalypt communities.

Seven associations of differing species mix are recognised:

Callitris endlicheri dominant with eucalypts such as *Eucalyptus goniocalyx*, *E. blakeleyi* and *E. dwyeri*;

E. goniocalyx-*E. bridgesiana* (bundy-apple association);

E. macrorhyncha- *E. blakeleyi* (red stringybark-red gum association);

E. macrorhyncha-*E. goniocalyx* (red stringybark-bundy association);

E. blakeleyi as a single species;

E. blakeleyi-*E. melliodora* (red gum-yellow box association);

E. blakeleyi-*E. polyanthemos* (red gum-yellow box association).

Although *E. goniocalyx* and *E. bridgesiana* occupy similar habitats, *E. goniocalyx* is the more common of the two.

E. macrorhyncha is very common throughout as a tall tree on deep soils and is stunted on the poorer soils. *E. blakeleyi* and *E. dwyeri* occur together on gravelly ridges and hybridisation has been confirmed between these two species. *E. melliodora* occurs in localised areas, notably at the head of Merrybundinah Creek. *E. polyanthemos* occurs on the eastern side of the reserve. *Acacia baileyana* (Cootamundra wattle) is the most common understorey species.

Policies

- * The diversity of vegetation types within the reserve will be maintained.
- * Areas damaged by previous land management practices will be rehabilitated. Where replanting is necessary, trees and shrubs, propagated from local seed sources or cuttings, will be used.
- * The collection of flora will be prohibited except for scientific and educational purposes approved by the Director.

Actions

- * A vegetation map will be prepared.
- * The cleared country associated with the Eulolo homestead will be rehabilitated.

4.1.3 Native Animals

There is a great diversity of native fauna within the reserve and some 94 species of mammals, birds, reptiles and amphibians have been recorded to date. This diversity of species reflects the range of habitats available within the reserve.

Ulandra Nature Reserve is important not only for its variety of native animal species and the range of habitats it offers, but also as a refuge area in an agricultural landscape, a migration route linking other areas and as a gene pool.

Policies

* The existing diversity of native fauna within the reserve will be protected.

* The habitats of endangered fauna listed in the Interim Schedule 12 of the National Parks and Wildlife Act, will be protected.

* Research projects investigating habitat requirements, status and distribution of native animals, particularly endangered animals and animals of special concern will be encouraged.

* The collection of native fauna within the reserve will be prohibited except for scientific and educational purposes approved by the Director.

4.1.4 Non-Native Plants and Animals

A variety of non-native plants and animals occur within Ulandra Nature Reserve. These species are considered detrimental to the natural values of the reserve and can be a source of conflict between the Service and reserve neighbours.

Non-native plants and animals of concern include blackberry, briar, pigs, rabbits and goats.

Policy

* Non-native plant and animal species within the reserve will be controlled as necessary, with the long term aim of eradication.

* Where possible, control programmes will be carried out in conjunction with adjoining landholders or relevant local authorities.

* Special emphasis will be given to the control of feral pigs, rabbits and blackberries.

* Control measures utilised will be those which have the least impact upon the reserve, such as poisoning, fumigation and removal of shelter for rabbits, trapping and shooting of pigs, and selective use of herbicides for blackberry and other weeds.

Actions

* Boundary fencing will be upgraded to exclude domestic stock from the reserve.

* Liaison will be maintained with neighbours to minimise the introduction of non-native species into the reserve.

* Public authorities undertaking work within the reserve will be made aware of the need to minimise the introduction and spread of non-native species.

4.1.5 Water

Creeks and streams within the nature reserve are ephemeral. Permanent water is provided for wildlife by a number of soaks and old farm dams.

Policy

* Catchment areas and water bodies within the reserve will be maintained in a natural and unpolluted condition.

Action

* The existing soaks and farm dams will be maintained to provide water for wildlife and for fire fighting purposes.

4.1.6 Grazing

Illegal grazing is an occasional problem within the reserve, chiefly as a result of deteriorating boundary fencing. Apart from causing damage to natural vegetation and to revegetating areas, domestic stock may also act as vectors for noxious or non-native plant species.

Policy

* The Service will enforce the prohibition of grazing within the reserve to prevent damage to native plant communities and the spread of non-native plants.

Actions

* Where stock are found within the reserve, impounding procedures will be undertaken as soon as practicable.

* The Service may, in accordance with its fencing policy, assist neighbours to upgrade boundary fences to exclude domestic stock.

4.1.7 Fire Management

The Service regards fire as a natural phenomenon, one of the established physical factors of the Australian environment. However, uncontrolled fire within the nature reserve is a matter of concern for:

- National Parks and Wildlife Service
- Adjoining landholders
- Local Bushfire Brigades
- Local Government Authorities
(Junee, Cootamundra and Gundagai Shires)

Controlled burning will be used as a fuel reduction method where this does not conflict with the nature conservation objectives of the nature reserve. Other fuel reduction methods including the use of mechanical equipment to construct cleared or mown fire breaks will be used where burning is not appropriate.

The construction of a perimeter fire trail for the protection of neighbouring properties from fire will be investigated. Because of the relatively small size of the reserve it would be appropriate for the trail to be located on cleared land adjacent to the reserve wherever possible.

Under the Bushfire Act (1949) the Service is a fire authority. It is responsible for controlling fires on the nature reserve and to ensure they do not cause damage to other land or property. This responsibility includes the

implementation of fuel management programs. The Service may also assist with the control and suppression of fires adjacent to Ulandra Nature Reserve.

The Service regards co-operative fire management as essential for both the protection of property and of the cultural and natural resources of the nature reserve. An important part of the Service's fire management is participation as a member of local District Bushfire Committees in the preparation of District Co-operative Fire Management Plans.

Policies

* As far as possible, unscheduled fire will be excluded from the nature reserve.

* Within the reserve, measures for the reduction of fuel (including the planned use of fire) may be used for:

- the protection of human life and property;
- the maintenance of species and habitat diversity;
- the protection of any rare species or communities of special significance;
- the protection of cultural resources.

* Liaison will be maintained and co-operative strategies developed with bushfire brigades, local government and neighbours to ensure co-ordination in fire management in the nature reserve and on adjoining lands.

* No heavy machinery will be used for fire fighting purposes within Ulandra Nature Reserve without the prior approval of the Officer in Charge of Tumut District.

Actions

* A fire management plan for Ulandra Nature Reserve will be prepared by December 1993 and will include broad fire management objectives and strategies.

* The vegetation survey and vegetation map (q.v. 4.1.2) will be completed prior to the preparation of the fire management plan.

* The lighting of fires within the reserve will be prohibited.

* The Service will aim to control fire within the nature reserve and to extinguish fires before they escape from the nature reserve.

* The Service will participate in the preparation of section 41A District Co-operative Fire Management Plans.

* Responsibility for the initial attack on fire within the reserve may be delegated to local fire control officers.

* Records of fire occurrence will be established and maintained.

* Liaison will be established and maintained with local shires, bushfire brigades and neighbours to develop effective joint fire management strategies.

* The existing access trail system within the reserve will be maintained for fire management and suppression purposes.

* The Service will liaise with neighbours and bushfire brigades to establish a perimeter fire break.

4.2 CULTURAL RESOURCES

The reserve contains evidence of past Aboriginal activity. Surface scatters of stone artefacts and other relics have been recorded.

Since European settlement, human activities within the reserve have included clearing, grazing and some timber getting. Evidence of this occupation remains in fencelines, stockyards, buildings, and farm dams.

Policies

- * All Aboriginal sites within the reserve will be protected.
- * Any developments undertaken within the reserve will be preceded by an Aboriginal sites survey.
- * In accordance with the Burra Charter, evidence of European occupation will be assessed and conserved where warranted.
- * Sites of significance to contemporary Aboriginal people will be identified through liaison with local Aboriginal communities and will be managed in consultation with them.
- * Evidence of European occupation will be assessed for historical, social or architectural significance. Evidence of European occupations will be assessed and where warranted conserved in accordance with the Burra charter

Actions

- * All Aboriginal sites will be protected from disturbance.
- * The reserve will be progressively surveyed for Aboriginal sites and recorded.
- * Buildings or facilities not of historical, cultural or management significance will be removed.

4.3 USE OF THE NATURE RESERVE

Ulandra Nature Reserve will be managed to ensure that its use, whether by the general public, special interest groups, Service managers or other authorities, is appropriate and conforms with the management objectives and strategy of this plan.

The categories of use that may be appropriate within Service areas are:

- * recreation in a natural setting;
- * environmental education;
- * promotion of natural and cultural resource conservation;
- * research; and
- * management operations by the Service and other authorities.

The extent to which these categories of use are appropriate to Ulandra Nature Reserve are indicated below.

4.3.1 Alien Tenures

Alien tenures existing within the nature reserve include a private road, television tower and associated buildings, and a transmission line.

Policies

* No further developments, leases or licences will be granted within the reserve.

* Existing alien tenures will be monitored to ensure their impacts are kept to a minimum.

4.3.2 Access and Recreation

Ulandra Nature Reserve currently receives only a limited amount of use by community groups and educational institutions, primarily from Wagga and Cootamundra. These include natural history and bushwalking clubs and the Riverina-Murray Institute of Higher Education.

Whilst lack of alternative areas reserved for conservation purposes in the district and surrounding region makes the reserve a potentially valuable community asset for educational and low intensity recreational groups, the limited public access to the reserve constrains the Service's ability to promote the reserve for such purposes.

Policy

* The Service will encourage the use of the reserve by community groups, educational institutions, and individuals for the appreciation and enjoyment of its wildlife and natural environments to the extent which is possible given the constraints on public vehicular access.

Actions

* Signs will be erected to provide basic information about the reserve and advise visitors of appropriate activities to undertake within the reserve.

* A leaflet will be prepared for community groups and educational institutions advising them of the location of the reserve, access constraints, features of the reserve, and guide-lines for the use of the area.

* Where possible the Service will provide on-site interpretative assistance for community groups and educational institutions.

4.3.3 Research

There are many research opportunities within the reserve e.g. the effects of fire on Callitris communities.

Policy

* The Service will seek to encourage research on matters relevant to the management of Ulandra Nature Reserve and on the conservation of the natural resources of the south-west slopes.

5. PLAN IMPLEMENTATION

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

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

District programmes are subject to on-going review, within which, works and other activities carried out at Ulandra Nature Reserve 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 from planning to implementation, and any necessary investigations undertaken in accordance with established environmental assessment procedures.

Under Section 81 of the National Parks and Wildlife Act, 1974, this plan shall be carried out and given effect to by the Director and no operations can be undertaken within Ulandra Nature Reserve except in accordance with the plan. However, if after adequate investigation, operations not included in the plan are found to be justified, this plan will be amended in accordance with Section 76(6) of the Act.