

**PULLETOP NATURE RESERVE
PLAN OF MANAGEMENT**

National Parks and Wildlife Service

Part of the Department of Environment and Conservation (NSW)

December 2005

This plan of management was adopted by the Minister for the Environment on 12 December 2005.

The planning process leading to the development of this plan has involved the collection and use of a large amount of information, which for reasons of document size, has not been included in the plan. For additional information or enquiries on any aspect of Pulletop Nature Reserve or this plan, contact the Department of Environment & Conservation (NSW), Parks Division, Riverina Region Office at 200 Yambil Street Griffith or by phone on (02) 6966 8104.

Cover photograph of the research hut in Pulletop Nature Reserve.

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FOREWORD

Pulletop Nature Reserve is located in the Riverina, about 38 kilometres north of Griffith, and covers an area of 145 hectares.

Pulletop Nature Reserve was used for intensive scientific research into the behaviour and ecology of the malleefowl from 1951 when Dr H. J. Frith, Chief of the CSIRO Division of Wildlife Research, began a major research project on malleefowl. The reserve was dedicated as Pulletop Faunal Reserve in 1963, and renamed Pulletop Nature Reserve in 1967.

Surrounded by agricultural land, Pulletop Nature Reserve provides an island of natural habitat for many native animals within the region. A total of 123 mallee and woodland birds have been recorded in the reserve, including fourteen threatened species. The endangered malleefowl *Leipoa ocellata* was present in the reserve until the 1980s but, together with a number of other species previously recorded, it is now considered to be locally extinct. The number of woodland and mallee birds are declining rapidly due to habitat destruction and predation, and therefore the conservation of remaining areas of native vegetation such as Pulletop Nature Reserve is vital for their survival.

Pulletop Nature Reserve is a small area with no recreational attractions. Public use of the reserve is mainly for nature studies and bird watching by local naturalists.

This plan of management provides for the continued management of the vegetation in Pulletop Nature Reserve for conservation of endangered and vulnerable native animals. Nature study visits and birdwatching by educational and community organisations and individuals will be permitted with permission.

This plan of management establishes the scheme of operations for Pulletop Nature Reserve. In accordance with Section 73B of the *National Parks and Wildlife Act 1974*, this plan of management is hereby adopted.

Bob Debus
Minister for the Environment

CONTENTS

	Page No.
1. INTRODUCTION	1
2. NATURE RESERVES IN NEW SOUTH WALES	1
2.1 LEGISLATIVE AND POLICY FRAMEWORK	1
2.2 MANAGEMENT OBJECTIVES	1
3. PULLETOP NATURE RESERVE	2
3.1 LOCATION, GAZETTAL AND REGIONAL SETTING	2
3.2 NATURAL HERITAGE	2
Landform, Geology and Soils	2
Native Plants	2
Native Animals	3
3.3 CULTURAL HERITAGE	4
Aboriginal Heritage	4
Non-Aboriginal Heritage	4
3.4 USE OF THE AREA	4
4. MANAGEMENT ISSUES AND STRATEGIES	6
RESERVE MAP	5

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. Once a plan of management has been adopted by the Minister, no operations may be undertaken within Pulletop Nature Reserve except in accordance with the plan.

A draft plan of management for Pulletop Nature Reserve was placed on public exhibition from 26 March until 28 June 2004. The exhibition of the draft plan attracted 4 submissions that raised 7 issues. All submissions were carefully considered before the Minister adopted this plan.

2. NATURE RESERVES IN NEW SOUTH WALES

2.1 LEGISLATIVE AND POLICY FRAMEWORK

The management of nature reserves in NSW is in the context of the legislative and policy framework, primarily the *National Parks and Wildlife Act 1974*, the *Threatened Species Conservation Act 1995* and the policies of the National Parks and Wildlife Service. The policies arise from the legislative background, the corporate goals of the department and internationally accepted principles of park management. They relate to nature conservation, Aboriginal and historic heritage conservation, recreation, commercial use, research and communication.

Other legislation, international agreements and charters may also apply to management of the area. In particular, the *Environmental Planning and Assessment Act 1979* (EPA Act) requires the assessment and mitigation of the environmental impacts of any works proposed in this plan.

2.2 MANAGEMENT OBJECTIVES

Nature reserves are reserved under the National Parks and Wildlife Act to protect and conserve areas containing outstanding, unique or representative ecosystems, species, communities or natural phenomena.

Under the Act, nature reserves are managed to:

- conserve biodiversity, maintain ecosystem functions, and protect geological and geomorphological features and natural phenomena;
- conserve places, objects, features and landscapes of cultural value;
- promote public appreciation, enjoyment and understanding of the reserve's natural and cultural values; and
- provide for appropriate research and monitoring.

Nature reserves differ from national parks in that they do not have as a management principle the provision of opportunities for visitor use.

3. PULLETOP NATURE RESERVE

3.1 LOCATION, GAZETTAL AND REGIONAL SETTING

Pulletop Nature Reserve is located in the Riverina, about 38km north of Griffith, just off the Rankin's Springs road. The reserve covers an area of 145 hectares and lies on the plains bounded by the McPherson Range to the west and the Cocoparra Range 10km to the east.

Pulletop Nature Reserve is a portion of the original Block A (an area of 161 hectares) which was part of Dr H. J. Frith's study area for malleefowl research. Initial steps to preserve the area began in December 1960, when 145 hectares was withdrawn from sale from Homestead Farm to conserve mallee habitat for the malleefowl *Leipoa ocellata*. This provision was carried out under Section 233(1) of the Crowns Lands Consolidation Act. In January 1963, the area was dedicated as Pulletop Faunal Reserve. It was renamed as a Nature Reserve under the National Parks and Wildlife Act in 1967.

The reserve lies within the Carrathool Shire Council boundary. The towns of Griffith, Leeton and Narrandera and a number of smaller settlements are close to the nature reserve. The surrounding area has been extensively cleared for agricultural use, consisting of cereal cropping, sheep grazing and intensive irrigation south of the reserve. The reserve lies in the central NSW wheat belt, an area that has been cleared for wheat production. Pulletop Nature Reserve is important as a remnant of previously widespread mallee vegetation within the Riverina.

3.2 NATURAL HERITAGE

Landform, Geology and Soils

Pulletop Nature Reserve lies on Quaternary sand plain deposits. The landforms of the area include plains with low ridges or steps. The topography of the reserve and surrounding land is flat to very gently undulating, with no watercourses or drainage lines. Most of the reserve and surrounding area is composed of Quaternary sediments, primarily alkaline red earths containing gravels, particularly quartz and sandstone.

The soils of the area are highly permeable, so that any precipitation is absorbed rapidly. The red and brown clayey sand loams are very light, therefore are easily erodible by natural processes such as wind and water. Agricultural practices on surrounding farm properties may also increase the rate of erosion. Sand deposits have built up over time on the boundary fence of the reserve.

Pulletop Nature Reserve is within the Cobar Peneplain Bioregion in central NSW.

Native Plants

Pulletop Nature Reserve consists of tall shrubland to low woodland dominated by multi-stemmed mallee eucalypts. Most of the reserve supports four species of mallee, including *Eucalyptus dumosa*, *E. leptophylla*, *E. socialis* and *E. gracilis*. Mallee is dominant throughout the reserve except for a very small area of bumble box *E. populnea* woodland in the southwestern corner. Shrub and understorey species consist of mallee broombush *Melaleuca uncinata*, mallee cypress pine *Callitris pressii* spp. *verrucosa*,

streaked wattle *Acacia lineata*, sweet quandong *Santalum acuminatum*, fringed heath myrtle *Micromyrtus ciliata* and wedge-leaved hophbush *Dononea cuneata*. The most common shrub in the reserve is the smooth wallaby-bush *Beyera opaca*.

Ground cover species are diverse, the most common being porcupine grass *Triodia scariosa*. Other species include small-flowered wallaby grass *Austrodanthonia setacea*, feather speargrass *Austrostipa elegantissima*, annual bluebell *Wahlenbergia gracilentia* and five-minute grass *Trigopon loliiformis*. Many species of orchids are also found within Pulletop Nature Reserve such as dwarf greenhood *Pterostylis nana*, blue fingers *Caladenia caerulea*, pink fingers *Caladenia carnea* and midget greenhood *Pterostylis mutica*.

The reserve has been subject to fire and stock grazing in the past which, along with present kangaroo and rabbit grazing, are likely to have affected the vegetation structure and composition. It is expected that the recent reduction in numbers of rabbits in the reserve as a result of calicivirus will result in regeneration of native vegetation. Monitoring may be needed to determine whether further measures are necessary to promote regeneration such as exclosures to prevent kangaroo grazing.

Several photographic monitoring points have been established within the reserve. Regular recordings at these points are important for monitoring changes in the abundance and diversity of vegetation.

Native Animals

Surrounded by agricultural land, Pulletop Nature Reserve provides an island of natural habitat for many native animals within the region. The area provides important habitat for breeding, particularly for birds. A number of woodland and mallee birds are declining rapidly due to habitat destruction and predation, therefore the conservation of remaining areas of native vegetation is vital for their survival.

Native animals recorded in the reserve include the eastern grey kangaroo *Macropus giganteus*, western grey kangaroo *Macropus fuliginosus*, short-beaked echidna *Tachyglossus aculeatus*, common dunnart *Sminthopsis murina* and a variety of reptiles such as Gould's goanna *Varanus gouldii*, shingleback lizard *Trachydosarus rugosus* and the eastern blue-tongued lizard *Tiliqua scincoides*. Due to no watercourses found in the reserve, there have only been two species of frogs recorded: the bullfrog *Limnodynastes dumerilii* and the spotted marsh frog *Limnodynastes tasmaniensis*.

A diverse range of mallee and woodland birds (123 species) have been recorded in the reserve. Commonly observed bird species include the weebill *Smicrornis brevirostris*, spiny-cheeked honeyeater *Acanthagenys rufogularis*, white-eared honeyeater *Lichenostomus leucotis*, yellow-plumed honeyeater *Lichenostomus ornatus* and grey shrike-thrush *Colluricincla harmonica*.

Fourteen threatened species, listed under the schedules of the *Threatened Species Conservation Act, 1995* have been recorded from the reserve. The endangered malleefowl *Leipoa ocellata*, red-lored whistler *Pachycephala rufogularis* and the vulnerable southern scrub-robin *Drymodes brunneopygia* were present in the reserve until the mid to late 1980s, but are now considered to be locally extinct. Several other vulnerable species, including the chestnut quail-thrush *Cinclosoma castanotus*, Gilbert's whistler *Pachycephala inornata* and shy heathwren *Hylacola cautus* also appear to have

declined and, if still present, occur in very low numbers. Factors contributing to the decline of these species may include: the effects of small populations and breeding isolation due to the small reserve size; changes to vegetation structure and composition due to fire regime changes; predation by foxes and cats; and possibly increased grazing pressure within the reserve, reducing available food supplies and affecting plant regeneration.

3.3 CULTURAL HERITAGE

Aboriginal Heritage

Aboriginal communities have an association and connection to the land. The land and water biodiversity values within a landscape are central to Aboriginal spirituality and contribute to Aboriginal identity. Aboriginal communities associate natural resources with the use and enjoyment of foods and medicines, caring for the land, passing on cultural knowledge and strengthening social bonds. Aboriginal heritage and nature are inseparable from each other and need to be managed in an integrated manner across the landscape.

Pulletop Nature Reserve lies within the area of the Wiradjuri people. The history of Aboriginal use of the area is not known, although there are significant Aboriginal sites in Cocoparra National Park, which is located 10km east of Pulletop Nature Reserve. It is thought that hunting would have occurred throughout the mallee country around Cocoparra National Park, which would include Pulletop Nature Reserve.

The reserve is located within the area of the Griffith Local Aboriginal Land Council.

Non-Aboriginal Heritage

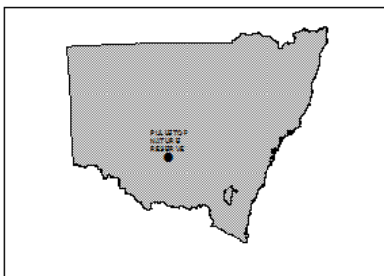
Pulletop Nature Reserve was formerly part of a privately owned property that was progressively cleared in the 1950s for sheep and crop production.

Pulletop Nature Reserve has been subject to intensive scientific research into the behaviour and ecology of malleefowl since 1951. A small two-room hut and pit toilet are located at the north eastern corner of the reserve. The hut was constructed by the previous landowner in 1963 for Dr H. J. Frith's use during his study of the malleefowl. As Chief of the CSIRO Division of Wildlife Research, Dr Frith undertook the first major research on malleefowl biology, publishing detailed accounts of the birds' breeding, distribution, predation and conservation. During Frith's study (1951-1960) most of the mallee in which he was working was cleared, with Block A becoming isolated from other mallee areas in 1956. Subsequent to this, moves were made to protect that area of mallee, culminating in its reservation in 1963.

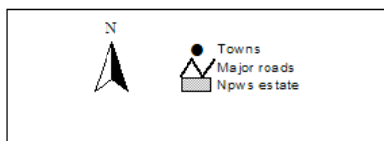
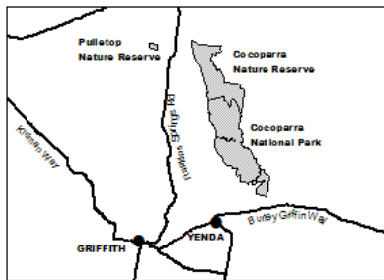
3.4 USE OF THE AREA

Pulletop Nature Reserve is a small area with no recreational attractions. Public use of the reserve is mainly for nature studies and bird watching by local naturalists. All public use requires permission from the National Park and Wildlife Service based at Griffith. Access within the reserve must be by walking to avoid damage to native plants.

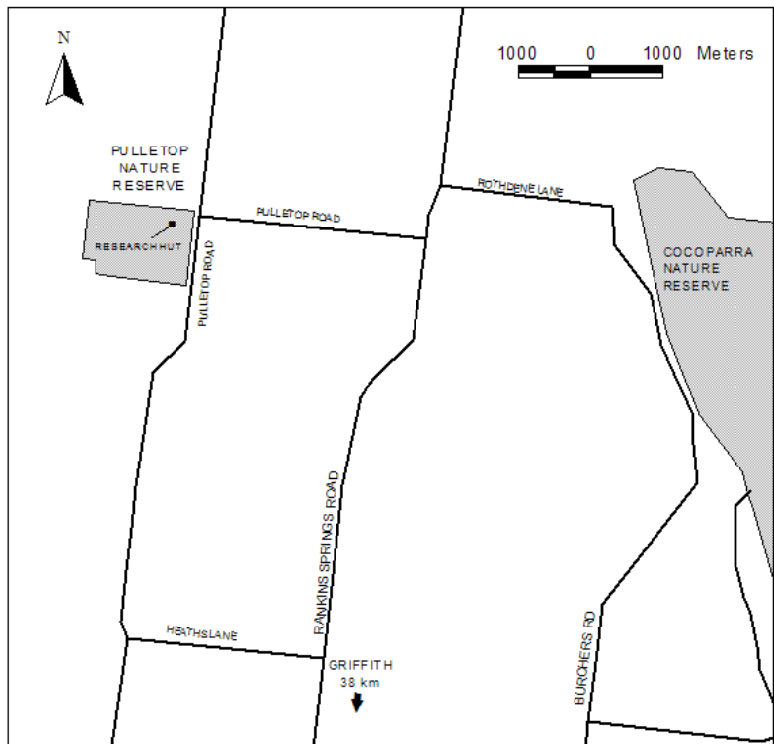
Community appreciation of the area and awareness of management programs may be promoted through direct contact with neighbours and community organisations.



LOCATION MAPS



PULLETOP NATURE RESERVE



4. MANAGEMENT ISSUES AND STRATEGIES

Current Situation	Desired Outcomes	Strategies	Priority
<p>Soil and water conservation</p> <p>Because of the gentle slopes, the reserve is mainly free of erosion. Any ground disturbance, however, has the potential to cause erosion. Wind causes build up of sand from neighbouring land along the boundary fence. At present, control action is not warranted but the boundary should be monitored.</p>	<p>Soil erosion is minimised.</p>	<p>Undertake all works in a manner that minimises ground disturbance.</p> <p>Monitor the boundary fence of the reserve for erosion.</p>	<p>High</p> <p>Medium</p>
<p>Native plant and animal conservation</p> <p>A number of threatened animal species have been recorded on the reserve, but a number are believed to be locally extinct (eg. malleefowl, red-lored whistler, southern scrub-robin) and the current status of others (eg. chestnut quail-thrush, shy heathwren, Gilbert's whistler) is unclear. Other species may also be under threat of local extinction.</p> <p>The reserve is isolated from other substantial areas of native vegetation, although some mallee remnants are conserved by neighbouring landowners. Long term conservation of the reserve's plant and animal species depends upon retention of remnant vegetation on neighbouring properties and re-establishment where possible of links between the remnants.</p>	<p>All native plant and animal species and communities are conserved.</p> <p>Structural diversity and habitat values are restored in reserve and surrounding land.</p>	<p>Manage the vegetation in the reserve for conservation of endangered and vulnerable native animals by fox control measures and appropriate fire regimes.</p> <p>Undertake and/or encourage surveys for threatened animal and plant species to determine their current status on the reserve.</p> <p>Monitor regeneration of native trees and other plants in the reserve, based on the existing photographic points.</p> <p>Work with neighbours, vegetation management committees and other authorities to encourage conservation of remnant native vegetation in the vicinity of the reserve.</p>	<p>High</p> <p>High</p> <p>Medium</p> <p>Medium</p>

Current Situation	Desired Outcomes	Strategies	Priority
<p>Introduced species</p> <p>No noxious plants are known to be a problem in the reserve. However, introduced grasses and pasture weeds such as barley grass <i>Hordeum leporinum</i> and Paterson's curse <i>Echium plantagineum</i> are common in the reserve.</p> <p>Small numbers of rabbits, foxes and hares are present in the reserve due to the close proximity of surrounding farming activities. Their numbers will be controlled by suitable methods when necessary.</p> <p>Stock occasionally stray into the reserve from neighbouring properties.</p>	<p>The impact of noxious weeds on native species and neighbouring lands is minimised.</p>	<p>Monitor noxious weeds. Any outbreaks will be treated.</p> <p>On-going monitoring of rabbits and foxes will be undertaken and numbers controlled as needed.</p> <p>The cooperation of other authorities and neighbours will be sought in implementing weed and pest animal control programs.</p> <p>In conjunction with the relevant owners, intrusions by domestic stock will be promptly removed. Deteriorating boundary fencing will be upgraded with agreements between the Service and landholders, according to the Service's Fencing Policy.</p>	<p>High</p> <p>High</p> <p>High</p> <p>High</p>

Current Situation	Desired Outcomes	Strategies	Priority
<p>Fire management</p> <p>Local knowledge indicates that the reserve was last burnt in the 1920s, except for a prescribed burn of a 24 hectares in the south-eastern corner in 1986.</p> <p>Fire is a natural feature of mallee communities and is essential to the survival of some plant species. Too frequent or regular fire, or conversely a long absence of fire, could cause loss of some plant and animal species and communities. Fire could also potentially damage cultural features, fences and threaten neighbouring land.</p> <p>Little is known about the ecological fire needs of the reserve. Cypress pine is fire sensitive, but other species require fire for regeneration. Fire may be needed for regeneration of shrubs, particularly wattles in the reserve, though new shoots and seedlings may be heavily grazed by kangaroos.</p> <p>Given the small size of the reserve, uncontrolled wildfire has the potential to seriously affect the population status of plant and animal species on the reserve, with possible local extinctions.</p> <p>The reserve is bounded by largely cleared private land so the fire risk is considered low.</p>	<p>Persons and property are protected from bushfire.</p> <p>Fire regimes are appropriate for conservation of plant and animal communities.</p> <p>Cultural features are protected from damage by fire.</p> <p>Environmental values are not compromised by bush fire.</p> <p>Environmental values are not degraded by lack of fire</p>	<p>The Service will continue to actively participate in the Carrathool Bush Fire Management Committee. Close contact and cooperation will be maintained with Rural Fire Service officers and volunteer bush fire brigades.</p> <p>All wildfire will be suppressed.</p> <p>Fire control guidelines will be produced annually in the Region's Incident Procedures. Current guidelines are:</p> <ul style="list-style-type: none"> - Avoid constructing control lines with heavy machinery. - Avoid constructing control lines unless fire is moving very slowly - Keep blade of earthmoving machinery on or above ground surface whenever possible - If fire is emerging from the reserve, direct attack will be more effective in open areas. <p>Prescribed burning of another small area, eg 25 hectares, should be attempted to ensure germination of fire dependent species.</p>	<p>High</p> <p>High</p> <p>High</p> <p>Medium</p>

Current Situation	Desired Outcomes	Strategies	Priority
<p>Cultural heritage</p> <p>The only built structures in the reserve are the hut and pit toilet used for CSIRO malleefowl research. The hut is still in fair condition. However, the department has no further use for either of these structures and they are of interest only for their historic associations with the malleefowl research carried out by Dr H. J. Frith.</p> <p>There are no recorded Aboriginal sites in the reserve and no record of its Aboriginal heritage.</p>	<p>Cultural features are conserved and managed in accordance with their significance.</p> <p>Aboriginal sites found will be recorded and protected from disturbance.</p>	<p>The cultural heritage significance of the hut will be determined and a conservation strategy prepared consistent with that significance. Meanwhile, the hut will not be made available for use and maintenance will be the minimum required to prevent further deterioration.</p> <p>Survey and recording will be undertaken for Aboriginal sites.</p> <p>The Griffith Local Aboriginal Land and other relevant Aboriginal community organisations will be consulted and actively involved in all aspects of management of Aboriginal sites and values in the reserve.</p>	<p>High</p> <p>Medium</p> <p>Medium</p>
<p>Public use</p> <p>The reserve is a small area used by naturalists and local amateur groups for birdwatching. It would not be appropriate to provide facilities for public use because of the reserve's conservation significance, small size and vulnerability to damage.</p> <p>Public use is minimal in the reserve and must be carefully managed since it is a relatively small and significant area of remnant vegetation and threatened species.</p> <p>Community understanding and appreciation of the conservation values of the reserve will be promoted through such means of staff contact with neighbours and community organisations.</p>	<p>Visitor use is ecologically sustainable.</p> <p>The local community is aware of the significance of the area and of management programs.</p>	<p>Nature study visits and birdwatching by educational and community organisations and individuals will be permitted with permission.</p> <p>No visitor facilities will be provided.</p> <p>Public vehicle use will not be permitted in the reserve.</p> <p>Group sizes and frequency of use will be limited if necessary to minimise environmental impacts such as trampling of regenerating native vegetation and disturbance.</p> <p>If there is sufficient demand, educational material may be prepared to promote public awareness of the reserve's values and management.</p>	<p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p> <p>Low</p>

Current Situation	Desired Outcomes	Strategies	Priority
<p>Research</p> <p>Scientific study is needed to improve understanding of the reserve's natural and cultural heritage and the requirements for management of particular species.</p> <p>Resources are limited, however, and research by other organisations and students will be encouraged.</p>	<p>Research enhances the management information base and has minimal environmental impact.</p>	<p>Pulletop Nature Reserve will be available with permission for appropriate research.</p> <p>Priority research areas are:</p> <ul style="list-style-type: none"> - native plant and animal surveys, especially for rare or threatened species; - monitoring of vegetation changes over time or in response to management practices; - determine if malleefowl are present in the reserve; - management requirements for malleefowl if present and other significant species found in the reserve; - fire management needs of the reserves vegetation; - survey for Aboriginal sites; and - impact of kangaroo grazing on vegetation. 	<p>Medium</p>

Legend for priorities

High priority activities are those imperative to achievement of the objectives and desired outcomes. They must be undertaken in the near future to avoid significant deterioration in natural, cultural or management resources.

Medium priority activities are those that are necessary to achieve the objectives and desired outcomes but are not urgent.

Low priority activities are desirable to achieve management objectives and desired outcomes but can wait until resources become available.